



THE

A M E R I C A N

AGRICULTURIST.

DESIGNED TO IMPROVE

ALL CLASSES INTERESTED IN SOIL CULTURE,

INCLUDING

The Farmer, Gardener, Fruit Grower, Planter, Stock Breeder, &c.

"Agriculture is the most Healthful, the most Useful, the most Noble Employment of Man."—WASHINGTON.

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WORK FOR THE MONTH.

“Flat on the hearth the glowing embers lie,
And flames reflected glow in every eye;
There the long billets forced at last to bend,
While frothing sap gushes at either end,
Throws round its welcome heat;—the plowman smiles,
And oft the joke runs hard on sleepish Giles,
Who sits joint tenant of the corner stool,
The converse sharing though in duty's school;
For now attentively 'tis his to hear
Interrogations from the master's chair.”

BLOOMFIELD'S FARMER BOY

Our fathers brought the good old English fire-side over with them in the Mayflower, and though it has been displaced by the modern stove in most parts of the country, it is still in the vivid recollection of the generation now upon the stage. Houses built fifty years ago, had the broad open fire-place surmounted by the long ponderous granite mantle-piece, extending eight or ten feet from jamb to jamb. Many now living can recall the full length back log, the fore stick, and the long billets heaped high, and the roaring flame, bidding defiance to the winter's cold, the oven in one corner of the fire-place, the tub in the other, which served the double purpose of seat and dyeing establishment, where fast colors were given to the woolens, which made up the staple of domestic manufacture for winter, in the good old age of Homespun. The fire side has been contracting with every successive age, as the forests have waned; and our ideas of domestic comfort have advanced.

There is a great deal of poetry lingering about that old wide mouthed fire-place, which we enjoy mightily, as we look back upon it from the snigger and more comfortable parlors of modern times. But there was precious little comfort or poetry to the men and women, who were constrained to pass their winter life by that open fire in the kitchen, which in most cases served all the purposes of a sink room, kitchen, sitting room and parlor. There was a chill in the atmosphere of that room on such a night as this, which the cheerful blaze could not dispel. As one side thawed the other nearly froze, and every side took its turn of frost and fire. It was an uncomfortable spot in most instances, and belonged to a ruder age. The farmer's home has gained immeasurably in health, comfort, and domestic attraction, by bricking up the open chimney, and putting in the fire frame the stove the grate or

even the furnace in the cellar. We may not indeed see the fire, but the grand use of fire, at least in the winter, is to comfort another sense, and to give us opportunity to use the sense of vision, for a better purpose than gazing at the blaze.

It is worth while, as we are drawn up this evening around our cosy fire, to look back at Bloomfield's picture and contrast the society which it represents with the rural life of our own times. With winter comes opportunity for retrospect, and reflection, and we can hardly appreciate our own position, without comparing it with the past. There can be no doubt, that there has been a great change for the better, in almost everything that pertains to rural life, during the last half century. The material improvement in the homes and farms, in the tools with which they are wrought, and in the animals with which they are stocked, is but a fair index of the great moral change that has come over our farming population. We will not say that the uncomfortable fire place drove them forth to other resorts, but from some cause or another they went, father, and son, and hired man, with great uniformity to spend their evenings at the village store or tavern. The bar-room was ample, and always well heated and lighted, and furnished with genial company. No school of vice more prolific in woes than this, could have been devised. It corrupted the rising generation as fast as they came upon the stage.

The brief work of the winter day being done, a large part of the male population of the surrounding country congregated here, to guzzle drinks of all the vile compounds into which New-England rum could be stirred, and to speak and act out the foolish and mad fancies these drinks inspired. These nightly gatherings, habitual during all the winter months, were terrible in their influence upon the public morals. Men did not live out half their days. Not even the healthful occupation of the husbandman could resist the blight of these winter carousings. Drinking inflamed the passions and led to betting and gambling, and often to quarrels in which many beside the combatants were involved. Feuds between neighbors arose, which only grew more bitter and hopeless of healing by the habits of the parties. Intemperance of course diverted men from their business, and proved as great a blight upon the industry, as upon the morals of the people. Every thing was neglected for the low pleasures of the tap room. The house went without paint inside and out the walls and

fences were broken down, and the farming tools were always out of repair. The cattle were not regularly foddered and watered, the barn leaked water at the top, and wind through the crevices, which were as numerous as the planks upon its sides. The mowing fields were run down, and the corn fields, half manured and half hoed, yielded maximum crops of nothing but weeds. The cattle were lean and long, and lean meat preponderated in all the pork that was killed. The children were not ready to go to school in the fall until long after the school had begun and were often interrupted in their attendance during the winter, by the father's improvidence. This of course brought on complaints at home, discouragement, low spirits, and peevishness, to be answered with bitter words, and with still further neglect. Domestic peace was destroyed, and home lost its charms. Mortgage after mortgage settled down upon the homestead, until it was all dissipated and passed into the hands of strangers.

What a change from all this, has come over the homes of our rural population. The old comfortless fire place has gone, and the kitchen of the olden time has resolved itself into separate apartments, adding a sink room at one end, a sitting and dining room at the other, and a parlor beyond that, which often sparkles as brightly with the glow of social life as its Franklin does with well seasoned hickory billets. The intemperance and low vices of the bar-room have been banished from many of our communities, and the rural population find their brightest pleasures at home. There is peace and comfort instead of bickering and strife. The sitting-room is neatly carpeted, well warmed and lighted, the whole household is well clad and all are cheerful and happy. Books and papers are there in abundance, and the conversation no longer runs upon scandal and gossip about neighbors, but upon the principles that underlie the business of life. The farmer not only has his political paper, but his journals devoted to agriculture, horticulture, literature, and religion. His labor is more intelligent and better rewarded, and he has time to give to reading and thinking, as well as to labor in the fields. No class in the community have more occasion for gratitude in the review of the past than our own. We live in happier days than our fathers, we have better houses, better food, and better cooking, better beds and better clothing. Everywhere there is a high degree of intelligence and civilization. The wants of farm-

ers have called into existence a class of journals that then had no representatives. The agricultural paper is a very recent idea not yet fully developed. The best of its class only foreshadows what is coming when the whole farming population appreciate their position as well as the pioneers, and when the farm journal becomes a necessity in every farmer's home. This day is hastening, and when it comes, may we be there to see the journal that shall fully represent the intelligence, thrift, wisdom and wealth of the American farm. Such are our meditations, by the new fireside on this first day of the year of grace 1857. But other duties are pressing, and we must think of the comfort of those dumb creatures who are dependant upon us, as well as of our own.

THE CATTLE

demand our constant care, during this inclement season, and their appearance is no bad index of the character of their owner. Does not a lean, half-starved, unsheltered cow convict her owner of inhumanity as clearly as ever stolen goods in possession, convicted a thief? An enlightened public now holds the farmer responsible for every starting rib and bristling hair. It is well fed stock alone that are profitable.

"Now farmers to your helpless charge be kind,
Baffle the raging year and fill their pens
With food at will; lodge them below the storm,
But watch them strict; for from the bellowing East,
In this dire season, oft the whirl-wind's wing
Sweeps up the burden of whole wintry plains
At one wide waft, and o'er the hapless flock,
Hid in the hollow of two neighboring hills,
The billowy tempest whelms; till upward urged
The valley to a shining mountain swells,
Tipt with a wreath high curling in the sky."

Keep the cattle stabled, and there will be no danger from tempests and snow banks. Cattle buried alive should only be known in poetry.

FUEL.

Now is the time to lay in your stock of this indispensable article. You have not as extensive woodlands as your fathers, to cull from, and you have not an open fire place eight feet wide to fill. But the small stock, that is needed for cooking and for the parlor fire, should be well seasoned. There is great waste in burning green wood, as well as sore trials to the patience of the whole family. The swamps are now frozen and the maple can be cut and drawn home. See that the wood-house is well stored, while the weather favors sledding and carting.

TOOLS.

Look over the tool room and see what is broken, and what new tool is wanting. It will be a loss of time to have to send for it in the hurry of spring work. You must have some new tools, or fall behind your neighbors. There is a mowing machine able and ready to do the work of ten men. Is it economy for you to do without it? There is a horse hoeing machine, that supercedes the hand hoe. Why not get it? There is a horse potato digger, that will turn out potatoes as fast as ten men can pick them up. Why should you dig with the hoe? There is a corn husker that will do the work of four men. Have you got it The farm

moves on a brisk jog, and if you do not keep a sharp look out on the tool room, you will be left in the rear.

TRIMMING ORCHARDS.

This may be done in mild weather, if it was omitted in November. Thin out the cross limbs, and cut out the dead wood. If the trees are mossy wash with strong soap suds. If they are not thrifty, put manure under them now, and give them a fresh start. Well fed trees alone are profitable.

TRIM GRAPE VINES.

This is too apt to be neglected until February or March, when the sap has begun to start. If the vines are cut now, the wound will sere over, and no sap will be lost.

CUT BEAN POLES AND PEA BRUSH.

Both will keep much better if cut now, than when the sap is starting in the spring. The cedar swamps are now accessible, and a good stock may be laid in. Cedar poles are much more durable, than birch and alder. All the articles, that will be needed for the garden in the spring, should be provided now.

PLANS FOR 1857.

It is a matter of great importance to the farmer, that he should lay out the work of the season beforehand, and now is the time to do it. We need much more thorough system in our farming operations. Determine upon the fields you will cultivate, and what shall be allotted to oats, corn, rye, wheat, buckwheat, potatoes, and other root crops; what walls shall be reset, and what ditches shall be dug; and how much labor will be needed to accomplish the work. Leave nothing to be decided upon in haste. A great deal of time and mental labor will be saved, by making your plans deliberately at the beginning of the year. If there are doubtful matters, consult the best farmer in your neighborhood, and give his opinion due weight in your decision. A neighbor's experience will often save a useless expenditure of money and labor.

When your plans are laid, carry them out, month by month, and week by week, until the year is completed. If you need capital for your legitimate business, hire it. You can as well afford to pay interest for this purpose as any other business man. Turn not aside to speculation in anything that you do not understand. Glory in the farm, and live by it. With these suggestions, we wish all our readers a *Happy New Year*.

ASHES AS MANURE.

For certain kinds of soil no manurial application is more valuable than wood ashes. Theoretical chemists tell us that ashes furnish elements essential to the constitution of plants, and that they are most effective on soils deficient in the particular elements usually contained in ashes. Without discussing this *theory*, or attempting to settle the mooted question whether any mineral elements are necessary to be supplied as specific nutriment to plants on soils generally, we may refer to one point on which there is little or no dispute. All agree that decaying organic substances (animal or veg-

etable) when undergoing decomposition, furnish valuable food or stimulant to growing plants. Now most soils, especially those subject to standing water, contain more or less vegetable matter, such as roots of grasses, &c., which have acquired a kind of asphaltic or carbonaceous condition, and decomposition has been arrested. An alkali—caustic potash, lime, or magnesia—added to such a soil acts upon the vegetable matter, hastening its decay, and fitting it to nourish plants. Too much alkali added in a single season may decompose the organic matter faster than it is needed, and much of it will be lost, and thus needlessly impoverish the soil. This is the frequent result of over liming land.

In very many cases soils are acid, (sour,) and on these the alkalies are valuable to neutralize the acids and sweeten them.

Lime is much used, on account of its cheapness, but it is far less soluble than potash. Indeed, the carbonate of lime is scarcely soluble at all, while carbonate of potash is very readily soluble. Lime acts more to harden a soil. For these reasons alone potash is much more valuable than lime to the farmer.

The only cheap available source of potash is unleached wood ashes. The ashes of oak wood have often yielded six, eight and ten per cent of potash, and those of beech wood nearly twice as much. In leaching ashes, it is principally this potash that is washed out, and on this account leached ashes are of small value to cold, damp, sour land.

For dry, warm, sandy soils, the ashes are not, as a general thing, beneficial; but on peat, or muck swamps, or clay lands, and on wet loams, they are almost invaluable. No farmer should sell his ashes at anything like the usual price obtained for them. Good ashes are cheaper to use upon the soil at twenty-five cents per bushel, than slaked lime at half the price.

Coal ashes have also a higher value than is usually attached to them. Several careful analyses of the bituminous coal ashes have shown 1½ to 3 per cent of potash, while all hard coals yield a small percentage. Besides this, most families burning hard coal use more or less wood, or wood-coal, in kindling fires, which furnish additional potash. From several analyses of hard-coal ashes and cinders, as well as from many experiments upon soils, we think no one having the smallest plot of land should throw away coal ashes. Let them be saved carefully, and added to the soil, putting them especially upon the coldest, wettest portions.—Ed.

TWO WAYS TO COOK THE OYSTER PLANT.

1st. Scrape the surface of the roots as you would parsnips; boil till done; then mash them, and add an egg and some rolled soda cracker. Make up into cakes, and fry in butter. Serve up while hot.—Edrt-ress.

2nd. Scrape the roots well, and cut them into thin slices; boil in one part milk and two parts water, until soft, and mash well; stir in flour enough to make them as thick as dough, and fry in butter.—Edrt-or.

CALENDAR OF OPERATIONS.

JANUARY, 1857.

[We put down here a summary of various operations many of them very common ones, it is true, but a simple catalogue like this will often suggest a piece of work that would otherwise be forgotten. The Calendar is adapted to the latitudes of 41° to 42°. A little allowance must be made for each degree of latitude—later north—earlier south. This table will be made out anew every month and adapted to the season of each year. It will also be greatly enlarged at the planting and sowing seasons.]

EXPLANATIONS.—The letters f. m. l. refer to *first, middle, and last* of the month.

Doubling the letters thus: ff., mm., or ll., gives emphasis to the particular period indicated.]

FARM.

Barns—Have stables and stalls for cattle and horses and keep them well littered at night. If you have prepared a heap of dried muck, as we have urged in former numbers of the *Agriculturist*, use it freely now, either by spreading over the stables and stalls, or covering the manure heap with it *after* each cleaning out of the stables. Keep the feeding or main floor clean, sweeping up the chaff and mixing with ground feed, wetting it sufficiently to cause the meal to adhere.

Cattle—Feed mostly under cover, cutting and steaming stalks as directed last month. When fed in the yards let the hay, stalks, &c., be put in racks. Watch cows about to calve and see that they have plenty of room and are well bedded at night. Cut and feed roots to milch cows *after* milking.

Cellars—Watch the approach of frost and double the windows, or put straw into them if frost is working in. Bins of potatoes or other roots may be covered with straw or blankets to keep them more secure. Do not move them in a frozen state.

Economy of the Farm—In addition to the directions of last month under this head, look well to the feeding of stock and making manure. Fodder that cattle often refuse will be eaten with avidity if cut and mixed with meal or shorts. Stalks cut and thrown into a cask or hoghead and steamed by pouring a few pails of hot water upon them and covering with a blanket, will swell out and make excellent food by adding a little meal. Use due economy in feeding hay, but be not too ambitious to sell largely, especially if you have to cart it some distance to market and pay the same money for manure, freighting or carting the latter equally as far; better increase your stock of milch cows and sheep, using your own hay and making manure on the farm.

Fowls—Keep in warm quarters, feeding well now that the ground is frozen or covered with snow. Cellars under barns or other buildings, or an excavation made in the side of a hill with a roof over it afford good shelter during winter. Give meat and pounded oyster shells, or lime to keep up the supply of eggs. Boiled potatoes and buckwheat cakes alternating with grain are good food. See article last month and elsewhere in this No.

Hogs—Give plenty of straw for bedding and make as much manure as possible by throwing in each day a little of the dried muck and leaves collected in Autumn. Clean out the pens often and use absorbents (muck, straw or soil) to take up all the liquid.

Horses—Stable in warm well littered stalls, and blanket whenever standing out of doors. Let them cool off after driving hard before giving water. Feed carrots, if they can be had, instead of too much grain.

Marketing Produce—This is a good season to dispose of, at least a portion of the surplus products of the farm, and much care and calculation are requisite to do it with profit. Vegetables should only be taken out during mild weather. Hay and grain may be marketed when the cold is too severe for vegetables.

Sheep—Provide with suitable shelter, and if any are about to lamb—which is earlier than is best—put them in separate warm pens. Give salt, or feed salt hay occasionally both to sheep and cattle.

Wood—Cut and draw from the swamps while they are frozen and the sledding or carting good. Have a full year's supply, not only at the door, but cut, split and piled away under cover if possible, before the spring work commences upon the farm.

ORCHARD AND NURSERY.

Very little can be done during this month save root-grafting young trees in the house or cellar. In the nursery labels should now be made in sufficient numbers to last through the season of sales and transplanting. Prepare stakes for the head of nursery rows. Several plans have been adopted to mark with definiteness the rows and division of different kinds of apples pears, &c., as they stand in the row. The best methods are by using flat painted stakes, on which the names are written with a painter's brush; and by stakes nearly round with a chamfer taken on one side about one third the diameter of the stick,

commencing at the end and extending downward say six inches. Pass a wire around one inch from this end of the stick and fasten it there by small nails, leaving it loose enough to slip a label in between it and the chamfer upon the stake. The labels are of pine about four inches long and one and a half wide by less than a half inch thick, and are painted upon the side next to the stake and rounded off upon the back towards the lower end, so as to fit the space like a wedge. The inner surface of the label is first painted and the names written on as wished. Stakes made in this manner of locust or some other durable wood about three feet long, will last a life time and can be changed as desired, or the labels can be changed without moving the stakes.

Mice will probably be less troublesome this winter as the ground is now well filled with water. We however advise treading the snow around standards and choice varieties in the nursery rows to prevent their girdling the trees above ground.

KITCHEN AND FRUIT GARDEN.

Cabbages, Cauliflowers, lettuce, spinach, &c., in cold frames attend to, covering with straw or mats in very severe weather and admitting air whenever it is mild. Air must be given every two or three days even in severe weather, opening the sashes for a few minutes upon the upper sides. Remove any decayed leaves or plants, else the offensive odor will be injurious to the healthy growth of the others.

Hot Bed Frames—Have in readiness for use when wanted, glazing the sashes if necessary. If new ones are wanted make them of sound plank, two feet high on the back, and for six feet width, about 15 inches high in front and of any required length. Nail them firmly to similar plank five or six feet long, one end being two feet and the other 15 inches wide. Plane the upper edges so that a sash will fit evenly and closely upon them.

Mushroom Beds—Give extra covering during severe weather to those producing. Collect fresh droppings from grain fed horses to form new beds.

Raspberries—Examine the ridges of covered canes and throw more earth upon those which are exposed. It is sufficient that the earth entirely covers them, but the winter rains will sometimes wash them bare.

FLOWER GARDEN AND LAWN.

There is very little to do in this department at present except to keep an eye to the shrubbery, especially the evergreen, which will need a little care to prevent the snow from breaking down the branches. Shake off the snow which lodges on them and shovel away from those branches which are being drawn down by the settling drifts. Loose straggling branches should be drawn up with bands or rings so as to prevent exposure to the drifting storms. If any bulbs were kept for late blooming in the spring and not planted last month, put them in at once if the ground can be worked. We by no means advise keeping them this length of time out of ground, as this puts back the blooming. Many however desire later flowers and to this end delay setting. But, a perfect flower in its season, is a far prettier sight than a partially developed, imperfect bloom out of season.

If new grounds are to be laid out in the spring this is a good season to form the plans and execute the drafts. Some of the main walks may be graded if the frost is not too severe, and hardy shrubs and deciduous trees may even be planted whenever the ground will admit of working.

Prepare labels and stakes for spring use, tying them in neat packages to facilitate the operations of a busy season.

GREEN HOUSE.

Air at all suitable times, not however allowing the temperature to fall below 35° unless the house is filled with hardy plants. In cool weather it is better to raise the heat to 50° or 55° before admitting air. Open the top sashes a few inches in the middle of the day, and the front ones when the weather will permit. Exclude fogs especially, as they are very injurious to plants.

Camellias—Sprinkle freely and wash the leaves of those plants which are covered with red spiders, using a sponge and rain water. If the plants are properly syringed every evening during summer, and twice a week during winter, there is but little danger of the spider. In syringing at this season, guard against wetting the blooms as it will cause premature decay. Cuttings may be made now.

Fumigate the whole house with tobacco smoke occasionally to destroy the green-fly, and use sulphur to kill or drive away red spider.

Heat—The particular temperature of the houses must be governed by circumstances. If a hardy collection of plants are grouped together in one room, the mercury may even fall below the freezing point, while a tender collection would require a much higher temperature. The temperature of each room should be as even as possible always raising it a little before admitting cold air.

Hyacinths, Jonquils, Narcissus and other bulbs—Examine with care and destroy any insects preying upon them. Carry a few of the most advanced to the hot house to for-

ward them. Give water freely, and if in glasses change the water each week; place growing ones near the light. Oranges, Lemons, Oleanders, &c.—Do not give too much water at this their resting period. If affected with scale, wash with strong soap-suds, or a weak solution of whale oil soap, syringing freely.

Water—Give sparingly and with caution, especially to those plants which are in an inactive state. Succulent, herbaceous and deciduous ones will only require a little once or twice during the month to keep the earth from becoming too dry. Other growing plants will require a watering once or twice a week, taking care not to dampen the floors, as a dry atmosphere is desirable at this season.

HOT HOUSE.

These will require particular attention during this month especially to guard against frost and the ravages of insects. The temperature must be as even as possible—a neglect of even a few minutes may be very disastrous to tender varieties of plants.

Air—Admit every day if the weather will permit, lowering the top sashes a few inches about noon, but not permitting a draft of cold air to circulate through the room.

Bulbs—Bring a few Hyacinths, Jonquils, Ixias, &c., into the Hot House for early bloom, watering freely.

Cactuses—Keep in dry situations giving very little water.

Cleanliness should be constantly attended to. Sweep and wash the houses often. Pick off all dead leaves and syringe those plants which can not readily be washed.

Heat—Regulate as evenly as possible, putting on the shutters before sundown in severe weather. If left off till the temperature begins to fall it will take some time with a hot fire to get it up again.

Insects of various kinds will make their appearance and multiply rapidly unless checked at once. Tobacco fumigations will destroy green fly and fumes of sulphur—given with care—is sure death to red spider, or daily syringing will effect the same purpose. Search out the mealy bug, and either collect by hand or immerse the plants affected in a solution of one pound strong soap, one half pound flour sulphur, one half pound leaf tobacco, with one fourth ounce nux vomica and a teaspoonful of turpentine; the mixture to be boiled for three or four hours in two gallons of rain water. Scale may usually be destroyed by washing with strong soap-suds.

Pines—Let the bottom heat of those fruiting be about 85° giving water weekly.

Repotting of Fuchsias, Cinerarias, Pelargoniums, Roses, Primroses, &c., may be done at this season.

Syringe the foliage of plants daily to keep them fresh and free from insects.

Temperature should be from 55° to 65°, never under 50°.

Water—Give daily to those plants which are dry unless this is their resting season. There is more danger of giving too much than too little at this season. The water should be taken from a tank or cistern in the house.

TO CORRESPONDENTS.

We must beg at least for "time" to reply to the great number of queries received. Before us is a mass of letters passed to the editorial desk, in which every conceivable thing is enquired for, from a steam engine to a package of three flower seeds. Now, though in offering to send the *Agriculturist* for \$1 a year, we do not contract to spend five dollar's worth of time for each subscriber in hunting up machinery, implements, and making out prescriptions for the wants of the individual soils, on a thousand farms, yet we are disposed to be as obliging and affable as possible, and so, while most of our subscribers are asleep, we are four or five nights in a week tugging away at the pile of letters aforesaid. All we have now to say is, that if any correspondent thinks his or her letter neglected let him, (or her) remember that there are 15-000 readers of the *Agriculturist*, each one of whom is just as likely to ask questions by letter as himself. Remember, also, that there are but 26 working days in a month, and only 24 hours in a day, all told.

A Boy Farmer.—A voluntary agent of this paper in Chenango county writes: "In Guilford, I found a boy farmer about fourteen years of age; extent of farm, half an acre; products this year, eighty bushels of roots, besides corn, cabbages, cucumbers, beans, onions, &c., in abundance for his father's family. He sawed wood to get money to pay for the *Agriculturist*, and says, 'with this for a guide, his farming pays.'" That boy will "get along in the world."—Ed.

CRANBERRY PLANTS WANTED.—We have had many recent inquiries as to where cranberry plants can be obtained, and at what price. Both upland and lowland varieties are inquired for. Those who have plants for sale would benefit both themselves and others by advertising the fact.

FARM FENCING.

This is a subject fast attracting the attention of our American farmers where stone does not abound. In our stony regions that material has heretofore offered the best, and on the whole, cheapest kind of fence, inasmuch as their removal from the fields has rendered the soil more available for cultivation, and furnished them with sufficient enclosures. The tendency among our farmers in general has been towards too much fencing; that is to say, a division of their farms into too many small fields, occasioning loss of ground, and much additional labor in tilling them by reason of "short bouts" in plowing, as well as giving harbors to the small vermin which all sorts of fence, more or less, protect in their depredations on the crops. This excessive fencing is rapidly going out of use by the increased expense of fencing material, and the higher prices of labor, as well as by our modes of improved agriculture in the use of farm machinery and labor-saving implements, so rapidly coming into practice. Still, fences we must have, and excessive fencing too; for, in our land of "liberty and equality," an agricultural community of a thousand substantial farmers, who keep all their small stock secure within their own premises, must spend an extra thousand dollars apiece in fencing against the pigs and geese of a dozen Irishmen, scattered about in their shanties, who own not a foot of land nor pay any taxes, yet maintain the proscriptive right to pasture their stock in the highway, against which the real land owners must, perforce, secure themselves at their own expense!

Our stony districts provide easily against such marauding, because the material they use, of necessity, makes a tight fence, but not so with others, who have to resort to wood for that object. With them is fast arising the serious question of what they are in future to rely upon as their best, cheapest, and most available, as well as desirable fencing material. The question of hedges has long been discussed in our agricultural papers, and it is asked, why not adopt thorn hedges in America as well as in England? The ready answer to this is, that our frosts are too deep in winter, and our droughts too severe in summer for their successful growth and standing in the soil. In England the summers are moist and cool, with no protracted droughts; the banks supporting them stand firmly, as the frosts do not heave and crumble them down into the ditches as they do here, thus giving them a free and succulent growth in summer, and a firm footing in winter, while here, cultivated in the same manner, the banks crumble from the winter frosts, and if planted on the level ground they do not thrive. Theoretically, this statement has been strongly combated, many experiments and trials in thorn hedging have been made within the past fifty years, and the result is, after protracted labors and great expense, that scarcely a mile of secure thorn hedge can be found in all our Northern States. Besides this, wood fencing has been so comparatively cheap that our farmers have managed in some way

or other to get along thus far, but with an enormous outlay in first building, and afterwards in a great annual outlay in their repairs, which they have not yet, or until of late, seriously considered.

There must, ere long, be a remedy for this; and that partially in the fewer subdivisions of interior fences on our farms, and in the use of a better material more cheaply furnished than formerly. In the first of these reforms, England is rapidly giving us a profitable example, in demolishing thousands of miles of their ancient hedges, in opening their small fields into larger ones, and the substitution of iron, so cheap and abundant there when new enclosures are required. The iron we have not yet arrived at. It is too costly; but in the abundance of our ore beds, and the cheaper manner in which we are making it, it will no doubt within the time of another generation be widely used for fencing purposes. But that is not now. We need something to supply our present wants. Since the opening of our great western prairies to cultivation, the public mind in that quarter has been actively awake to the practicability of the Osage Orange as a material for hedging. Millions of plants have been propagated for the purpose, and hundreds, perhaps thousands, of miles have been planted in fence within the last five years. Those adopting it, are hopeful of success—we trust with certainty—but the result has not yet been ascertained. The Osage Orange is a rapid growing plant, making long upright shoots through the summer; but the winter frosts have cut them down almost to the ground in the winter, even as far south as Lower Illinois, in latitude 39° as effectually as in 43° north. The next ten years to come will probably settle the question one way or the other. The common varieties of the American thorn, we consider altogether doubtful for hedging purposes, although hardy as when applied to thick hedging it mildews and does not appear to thrive; at all events, the trials made with it have not been generally successful.

These reflections lead us to the inquiry of what are to be our reliable fencing materials for the future in the absence of stone? We frankly answer—we do not positively know. Lumber of different kinds is yet abundant in wide districts of our country, and may continue to be for generations to come, as much waste land exists where the soil cannot be devoted to better purposes than growing it. Such districts, of course, are provided for. Yet we have still more extensive agricultural districts, where the soil is nearly all equally well adapted to cultivation, and the balance equally available by slight ditching and drainage; and in these the question recurs with great force, and we do not know that we can at present suggest any better practice than to enact laws preventing the running at large of all animals on the highways, making fewer subdivisions of fields and adopting the cheapest effective enclosures of lumber. Iron wire may come in as a part of the material in such cases, and the use of a light cheap wood-work may effect the rest.

There have been various "patent" inventions of fence, some of which may be worth trial, others of which are worthless from their want of efficiency, and the great expense attending them. But the properly securing of our fields is not yet desperate. Stringent laws, restraining the running at large of cattle, sheep, pigs and geese, can easily be enacted by our legislatures, and they should be in spite of the opposition of malcontents. Our farmers—and they are the great body of our producing classes—have it in their power to protect themselves against outside marauders, and if they neglect this the fault is their own. With the other objects they must contend as best they may, outside the stony districts, and in these we can do no better than to recommend them to clear their fields of these obstructions and convert them into the best kind of walls. We shall recur, on future occasions, to this subject again.—[Ed.]

AGRICULTURAL JOURNALS FOR PREMIUMS.

The annual meetings of our County and State Agricultural Societies are usually held at this season of the year, and arrangements are made for the exhibition next Fall. These societies are accomplishing great good by these exhibitions, and their annual reports and addresses. We think, however, there is hardly prominence enough given in the premium list to principles. You will find ten premiums offered for good butter, cheese or bread, where you find one for an essay upon the principles that underlie dairy management, grain growing, stock raising, and kindred pursuits.

The mass of our population not only want to see the best samples of their own industry, but a more thorough acquaintance with the science of husbandry. Our agricultural societies should give this more prominence. We all learn something at the fairs worth knowing, but they should be followed up with a little more didactic teaching to secure their best results. If we would add to the fair the distribution of agricultural and horticultural journals, in the place of a part of the money premiums, we think it would be an important step in advance towards the realization of the aims of these societies. It is no part of the object of these associations to enrich their members directly by pecuniary rewards for their products. At best they are but a slight compensation for the time and trouble required by the exhibition. They compensate the exhibitors directly by giving them valuable information, inciting them to improvement in their stock, and in their methods of cultivation. A few dollars then, more or less, in the premium list, would not probably make any very material difference in the extent of the exhibition, or in the sharpness of the competition for premiums.

With the more intelligent patrons of the fair, the journal premiums would probably be an additional attraction. If they already take and read one good agricultural paper it has taught them the economy of the outlay, and sharpened their appetite for more.

MANURES—CHAPTER I.

The only objection to taking more is the money outlay, an objection that would be remedied if they could pay for them by successful competition at the fair. Many a farmer would be glad to double his supply of papers, if he could do it in this way. A man who takes one paper is much more likely to take two or three more, than that man who never reads a paper is to begin to take one. It would be acceptable to this class, and would be fulfilling the mission of agricultural societies to distribute these journals more largely among them.

But there is another class in the community, and, if we mistake not, it is still in the majority, though yearly diminishing, which demands the special attention of these societies. We refer to those who read little or nothing, and do not believe what they do read, mainly for the reason that it is 'printed.' These farmers are carried along in a course of improvement, if they improve at all, by the force of example. A thriving neighbor, who reads and thinks, stirs them up by his new crops, tools and fertilizers. But they are for the most part sluggish, because they do not think and read for themselves. They will not subscribe for a paper, because they do not believe in book-farming. They would be ashamed to pay money for a paper, but would not object to receive it as a premium on some of their articles exhibited at the fair. Nobody could then charge them with fooling away their money for nonsense. There are many such cultivators in the land, and the most hopeful means of reaching them, and converting them to the true faith in husbandry, is to distribute a portion of our premiums at the fairs in agricultural journals.

Gentlemen of intelligence, who are usually associated in the management of these societies, should feel a sort of responsibility for the whole body of cultivators which they represent. They may be enlightened, their prejudices softened, and their labors be made far more productive by the diffusion of knowledge among them. It is estimated that in some counties of Massachusetts, agricultural societies and journals have added twenty-five per cent. to the value of their productions within the past five years. The fountains of knowledge are full. They only need a wise direction to fill the land with intelligence, thrift and plenty.

We throw out these suggestions now, while these societies are holding their annual meetings and laying out their plans for another year, what better work can they do for their brethren who fail to prosper by their calling, than to put these journals within their reach, and make them an object of competition? Circulate the documents, and let there be light in every corner of the farm. We are not speaking for ourselves. There are many good agricultural journals, and were there not, our belief is that any cultivator will be decidedly benefitted by reading even the poorest one printed in the country.—[Ed.]

This is a subject always in order, but we intend to make it a "special order," for a few months at least. We are considered a little 'heterodox' on the subject of manures by some of our cotemporaries. One thinks we reason wrongly. Another suspects we are aiming to be on the popular side of the question among farmers. Another calls us radical; and a fourth, not long since, pronounced us an "old fogie." The last was Mr. Greeley, but we forgive him, as he has since taken back at least two-thirds of the charge. In the series of articles, of which this is the first, we shall set forth our opinion of the true philosophy of manures, with the appropriate practice, and give the reasons for the faith that is in us. We write, however, not to vindicate our own personal views—a matter of small account to the world in general—but with the hope of inculcating right notions among the readers of the Agriculturist at least.

Our present views are very different from those we held some years since. When we first turned our attention from simple practice and observation to theorizing upon the means of increasing the growth of plants, we were struck with the beauty, simplicity and apparent truthfulness of the chemical theory, which may be stated thus:

All plants are composed of two classes of elements,—the organic and the inorganic, or mineral, and these elements are all essential, and always exist in the same relative proportion in the same species of plants. For example: 100 pounds of dry wheat was stated to consist of, say 2 pounds of inorganic matter, (which would be left in the form of ashes when the wheat should be burned,) and of 98 pounds of organic or gaseous matter, which escapes into the air during decay or burning.

Now the organic part is made up of the same elements as are found in water, air, and a certain gas (carbonic acid) which is always found in the air; and as these substances are always present around the plant, it was supposed that all that was necessary to be looked after in manuring a plant, was to see that its roots could find the necessary mineral elements to supply the 2 pounds of ashes.

Agricultural chemists turned their attention to discover what these ashes consisted of. They found, at first, an apparent uniformity in the composition of the ashes of the same plant; thus, for example, it was set down that 1,000 ounces of the ashes of wheat and turnips were made up as follows:

	1,000 ounces of Wheat Ashes were supposed to contain	1,000 ounces of Turnip Ashes were supposed to contain
Of Mineral Phosphates.....	500 ounces.	67 ounces.
Of Potash.....	250 ounces.	400 ounces.
Of Magnesia.....	120 ounces.	50 ounces.
Of Soda.....	83 ounces.	108 ounces.
Of Lime.....	25 ounces.	125 ounces.
Of Silica.....	12 ounces.	70 ounces.
Of Iron.....	7 ounces.	10 ounces.
Of Sulphuric Acid.....	3 ounces.	130 ounces.
Of Chlorine.....		40 ounces.
	1,000 ounces.	1,000 ounces.

Now if those mineral substances (the phosphates, potash, lime, &c.) are always found in the ashes of wheat and turnips, and if they are essential to the constitution

of these plants, and if the above table or any similar one which could be constructed, would show what proportion of each of these mineral substances is necessary to the formation or growth of these plants, then the process of manuring would be reduced to simply ascertaining whether any particular soil contained all these essential elements in due quantity and proportion, and then to apply to the soil the deficient mineral substances, should there be any.

As before stated, this theory appeared simple and plausible, and acting upon a belief in its truthfulness, Liebig and others first commenced a series of analysis of the ashes of different plants to ascertain the composition; and next the analysis of soils, to find what was wanting in their composition. In order to meet with certainty the necessities of a particular crop, in a soil which had not been analysed, specific manures were planned for each of the more generally cultivated crops. Thus, taking the above table as a guide, to furnish the mineral supplies for ten bushels of wheat, all that would be necessary would be to supply the roots (or soil) with, say 6 pounds of phosphates, 3 pounds potash, 1½ pounds magnesia, 1 pound soda, one-third pound lime, one-sixth pound silica, with a little iron and sulphuric acid. Specific manures of this character were actually made up by Liebig himself, patented in England and on the Continent, and extensively sold.

It is needless to say that they failed in practice; but the theory is still held forth by many. It is this same theory which gives currency to the present belief in the efficacy of the artificial fertilizers, now so abundantly manufactured and sold to farmers—to the benefit mainly of the manufacturers themselves. Though we desire to take up at once what we believe to be the true theory of manuring, and go into the practical details, we must ask our readers to wait for the practical part of this discussion, for a number or two, or until we have set forth some of the objections to the above theory, which lies at the bottom of so much of the present "scientific" agriculture.

We confess to having been carried away with the views of Liebig when we first began to look into this subject, and we accordingly quit all other pursuits and went into the laboratory, with the best teachers of analytical chemistry we could find, and after a preliminary course of study and practice, we commenced the analysis of plants, soils, and manures, and expended much time and money in the enterprise. We give now only the results of a long series of experiments and much thought upon this subject.

1st. There is no certainty that any considerable number of mineral elements are essential constituents or component parts of plants. Were they essential, we should find a far greater uniformity in the results of analyses. Those who will take the trouble to examine the matter carefully, will find that scarcely any two reliable chemists give the same relative proportion of mineral elements in different specimens of the same plant. It was during an attempt to construct a table of the average composi-

Among the advertisements in a late London paper, we read that "Two sisters want washing."

tion of several staple crops, as ascertained by different analysts, that we were first led to question the then current theory.

Again, the imperfections, the uncertainty of the results arrived at in chemical analyses, while they may be construed to account for the diversity in the results, are also against strong reliance being placed upon them.

Much stress has been laid upon the large amount of phosphates in the cereals or grains. But until the very recent discovery of "the molybdate of ammonia process" of determining phosphoric acid, and even since, we ask, what good chemist was ever entirely satisfied that he had determined accurately the amount of phosphoric acid either in a soil or in the ashes of a plant? We have conversed with many good chemists in reference to phosphoric acid determinations, and they have ever expressed a distrust of the accuracy of their results. We incline to the opinion that improved methods of analysis will show that the actual amount of phosphoric acid in the ashes of grains has uniformly been stated much too high. But, allowing even that it has been given too low, the question may still be asked, is a greater or less amount, or any amount at all of phosphoric acid really necessary to the constitution of the cereal plants?

That phosphoric acid is usually found in considerable quantities in the ashes of grains, is not absolute proof of its necessity there, any more than is the fact that salt is found in the ashes of sailors' garments a proof that salt is an essential constituent of such garments. All growing plants require a large amount of sap. This sap is taken in from the soil through the roots, and ascends into the pores or vessels. Much of it goes off into the air by evaporation from the leaves. This sap, as it is taken from the soil, holds dissolved in it various mineral substances, such as potash, phosphoric acid, and whatever else is soluble. Well-water is a fair representative of the sap of plants, as it is drawn in at the roots, and almost all well-water contains the same mineral substances as are found in the ashes of plants.

Some assert that the plant is endowed with the power of selecting from the soil such elements as it constitutionally requires; but this is unsubstantiated assertion. Madder and other coloring matters, common salt, the poisonous minerals, such as arsenic, &c., when placed around the roots are absorbed with the sap. No inherent power of selection enables the plant to keep them excluded. When the sap ascends, carrying these mineral elements along with it, and is evaporated from the leaves, the mineral elements, potash, soda, &c., are left behind, and are there found by the chemist, not necessarily as essential constituents, but as bodies accidentally present.

One end of a towel dipping into a basin of salt water will absorb, or suck up, a large amount of salt. Let the towel dry, burn it, and much salt will be found in the ashes. But no one would say that the salt is an essential constituent of the towel. The plant, whether green or dry when cut down for analysis, will contain a portion of sap,

and this sap will invariably contain more or less mineral matter, all of which will be found in the ashes on analysis. What chemist is prepared to say that *so much* is essential to the existence of the plant, and *so much* is accidentally there, or that the whole is not accidentally present? We do not say that silica, and some other minerals may not be useful or necessary, but we do say that any system of manuring founded upon any definite knowledge on these points is still greatly defective, if not useless.

It is urged that the same plant growing in soils of different composition will contain greater portions of particular elements. This is granted, but is easily accounted for on the supposition that the sap is changed in the plant, and has less capacity to carry particular elements back to the earth again. Thus, for example, a plant growing in a soil containing lime and soda would take up both in solution, but the quantity of sap is reduced in the plant, and it consequently will carry back to the earth a less proportion of the difficultly soluble lime, than of the easily soluble soda. In this case there would be found a preponderance of lime over soda if the ashes were analysed.

In the same manner we may explain why some plants growing in salt-water actually retain within them more potash than soda. Perhaps the relative size or weight of the atoms may have something to do with it. The weight of an atom or equivalent of potash is to that of an atom of soda as 47 to 31. Perhaps on account of their smaller atomic size the soda atoms are carried out at the roots more readily, and hence the chemist will find more potash than soda in the ashes, though a thousand times more soda than potash may have circulated through the pores. We suspect this cause, and others connected with the particular organization or structure of various plants, may have much to do with the comparative amounts of the mineral elements found in their ashes by analyses.

We do not lay these statements down as ascertained facts, but as plausible theories to account for phenomena, to be set against those received for a long time as orthodox. To our mind there is comparatively little yet settled as to what are essential mineral elements in plants.

It will readily be seen, then, that with the above view of the subject, we place little reliance upon the theory of special fertilizers for particular crops, so far as yet understood by the most skillful chemists.

So, also, the analysis of soils, with reference to ascertaining what particular missing elements can be added to meet the wants of particular crops, can be of no utility—to say nothing of the imperfect knowledge of chemistry yet prevailing. We may remark, while on these topics, that the strongest advocates of the utility of soil analyses are those who have had least to do practically with such investigations.—Ed.

(To be Continued.)

If you wish to preserve fine teeth, always clean them thoroughly after you have eaten your last meal at night.

BEE HIVES.

DETAILED DESCRIPTION OF A CHEAP, BUT EXCELLENT HIVE.

Whatever may be said of the advantages or disadvantages of this or that one of the hundred patent hives, more or less, it is quite certain that many of the most successful honey growers succeeded with but very simple hives. We have heretofore alluded to Mr. Quinby's success, and stated that he used only the simplest cheapest hives. At our request, he has furnished the following very plain description of the hives used by him. They are cheap, and easily constructed by any one, and no "patent" will be infringed by any one who chooses to follow the plan given below. We are glad Mr. Quinby has detailed so minutely every part of the construction, even at the risk of being thought tedious or prolix. We desire just such chapters of particulars on a thousand topics. Let every one describing an implement or process keep in view every possible question that would be asked by a novice who should attempt to follow his directions, and try to meet all such questions, and even then, in nine cases out of ten, he will make himself none too plain.—[Ed.]

To the Editor of the American Agriculturist:

Since you gave publicity to the circumstance of my having sold over twenty thousand pounds of honey the past season, I have been beset with letters inquiring into my system of management, and more particularly as to "what kind of hive I use," this being considered by most people an all-important talisman of success. Perhaps, in accordance with your suggestion, a description of my hives would interest the readers of the Agriculturist as much as anything I could say with reference to bees at this season.

First then, it may be understood that my large supply of honey was obtained by a very simple process, as far as the hive is concerned. But the results were not reached by merely putting bees into simple hives, any more than a good crop of corn is realized by simply planting the seed without further attention. Yet several considerations do make the kind of hive important. We wish to bring about certain results; what the means are, I propose to say, appealing to the results before mentioned for authority to say it.

When the profit of bee culture is the only object, of course the cheapest route to reach that point will be adopted. If with a hive costing twenty-five cents, we secure the same results as with one costing five dollars, we save just the difference. If any one desires ornamental hives to correspond with his establishment in other respects, that is another, and there can be no objection, of course, but the extra expense should not be charged to the bees as a necessary outlay. With these preliminary remarks, I will proceed to describe a hive in its simplest form, but one which will give every facility for obtaining the purest honey to be had, in any style.

First. The general form of the hive is a wooden box, the internal size being say twelve inches square and fourteen inches high, made of sound boards an inch in thickness, and unplaned either within or on the outside, except at the edges, to make close joints. To construct it, cut boards fourteen inches long, two of them twelve inches wide, and two fourteen inches wide. These nailed together at the edges, the wider ones being put over the edges of the other two, will make the inside size as above, viz., twelve inches

square and fourteen inches high, and the hive will contain a little over two thousand cubic inches.

The size is important. There should be room for brood and for storing a winter supply of honey in *one apartment*. If too small, an insufficient supply of food will be stored; if too large, more honey than is necessary will be stored in the hive, when it ought to be in boxes above for profit.

I stated that the size should be about two thousand cubic inches, but I would vary the size with the latitude. Say south of 40 degrees, where the winter is comparatively short, a less size will do, as a less quantity of honey for food will be required. But here another point must be kept in view: there *must* be room for all the brood combs needed by the queen, otherwise the stocks will run down for want of new recruits. From several experiments to ascertain this point, eighteen hundred inches is indicated as all the room necessary for *that* purpose. Perhaps the last size would be the proper one for profit any where south of the latitude of 40 degrees, and in no case would less than one cubic foot (1728 inches) be advisable.

For the top, take a board fifteen inches square, which would allow it to project half an inch over each side of the hive. Plane only the upper side. Around the edges of the planed side, rabbet out the corners half an inch deep, and an inch inward, so that another box a little larger than the main hive can be set over it and fit into the rabbeted edge of the cover. Through the cover make two rows of holes, say about three inches each side of a line drawn through its centre. These holes should be made uniformly distant, because it is necessary to have a rule to go by in making glass boxes to fit over them. A pattern to make the holes by is very convenient. The cover can now be nailed on.

Make a small opening for the passage of the bees in the front side of the hive, either at the bottom, or part way up; or, what is better, in both places. These will be sufficient for ventilation, except in hot weather, when the front side of hives containing full stocks should be raised half an inch or so to admit air. Put sticks across the inside to support the comb,* close the holes in the top, and this part of the hive is ready for the bees.

The honey to be removed from the bees is stored by them in glass boxes set upon the top of the hive. There may be two or four of these, the number depending upon the size desired, and they can be 6 inches, and 6½ or 12½ inches long. The top and bottom is made of wood and the sides of glass. For the wood, take thin boards and plane down to one-fourth of an inch, cut of the proper length and width, and make holes in the bottom piece to correspond with the holes in the top of the hive. The posts or corner-pieces are five inches long, and say five-eighths of an inch square. In two adjacent sides of each piece make a narrow groove or channel, one-fourth of an inch deep, for glass to fit in. Fasten these upright pieces upon each corner of the bottom by nailing through into the end. The glass sides, previously cut of the proper size, are then slipped down into the grooves. Next stick fast to the top piece some pieces of new white comb, an inch square, as a beginning for the bees—one edge dipped in melted wax and applied before cooling will hold these bits of comb fast. Then put this top piece on, fastening it to the top of the upright posts of the corner with small nails. The boxes can be set away until

* In the text, Mr. Quinby does not describe the manner of placing the sticks, but from his work on bees, we gather that he puts one horizontal stick, half an inch in diameter each way, through the centre of the hive.—Ed

wanted for use. The glass sides may be cut from common window panes. From the size above indicated, that is 5 inches high, and 6 or 12 inches long, panes 10 by 12 inches cut up without waste. The small upright corner pieces may be worked out in long strips, and then cut up to the required length. A thin grooving plane, or a saw will cut the grooves for the glass readily.

A covering over the glass boxes is necessary. This is to be made of boards, say 7 inches deep and exactly 13 inches square on the inside, so as to fit down upon the rabbeted edge of the cover to the main hive, and shut out all light. Bees will work in such boxes without the rabbeting around the edge of the top, but unless there is a close joint to shut out light, the glass and combs do not appear so clean as when it is perfectly dark.

I have thus given a full description of all that is really needfull in a bee-hive. But those who wish can have the outside planed and painted, and add moldings, dentals, and any amount of ornaments; as long as the principle is observed it will not interfere with the prosperity of the bees. Even an excess of ornament would be attended with less expense than most patent hives not half as good. There is not the least necessity of the simple hive costing over 25 cents, the cover to the boxes 12½ cents, stand 6 cents, roof 6 cents, or all complete for 50 cents. The glass boxes would cost the same for any hive, and are not reckoned.

The stands for the hives to rest upon, and the roofing, are yet to be described. The stand is made of inch boards, 15 inches wide by 2 feet long, the ends nailed on pieces of wood or joist from two to four inches square, and put directly on the ground, with the hive on the back end. The advantages of this arrangement are sufficient to balance any little trouble of keeping down weeds, grass, &c. The roof is made by two boards, 18 by 24 inches, nailed together like a house-roof, and laid on the top loosely. One great advantage of separate stands is, there is no difficulty in allowing plenty of room between stocks, which is an important consideration.

M. QUINBY, Author of
"Mysteries of Bee-keeping Explained."
St. Johnsville, N. Y.

CURE FOR FISTULA AND POLL EVIL.

A subscriber in Dutchess county, who gives his name, but prefers we should suppress it, as he is more anxious to benefit that noble animal, the horse, than to get into notoriety himself, says he paid three dollars for the following recipe, and is well satisfied with the investment, as it is, in his opinion, a *sure* cure for fistula and poll evil. As he does not know that any one has any peculiar right to sell the recipe, he offers it free to the readers of the *American Agriculturist*.

TO CURE FISTULA AND POLL EVIL.—Make two sticks smooth, about the size of a common pipe-stem; let one be bluntly pointed, to be used as a probe. Break from a stick of nitrate of silver (lunar caustic) a piece half an inch long; take a strip of writing paper, roll it twice round the caustic, letting it come far enough on to tie firmly with a bit of thread or silk, and projecting past one end of the caustic a little, to form a tube or socket. With the probe find the orifice, and probe it to the bottom; enter the other stick into the paper tube, withdraw the probe, and following the orifice, crowding the caustic to the bottom; this will need to be repeated three or four times, at intervals of about a week. The horse should not be used during the time; and if

he is fed something for the benefit of his blood, all the better. This may be relied on as a thorough and effectual remedy. A SUBSCRIBER.

MANURE MARLS OF NEW-JERSEY.

Every one acquainted with the progress of farming in Eastern New-Jersey, especially in Monmouth County, during a few years past, is familiar with the immense advantage derived from the use of the *green sand marl*. Whether the peculiar value of these marls depends upon the organic remains, or otherwise, we do not propose to discuss here. One thing is certain, that by its liberal application, whole farms have been raised from an almost worthless condition to the production of large and highly remunerative crops. We recently visited a farm which ten years ago was purchased for some \$6 an acre, but which is now valued at over \$100 per acre, and even pays a higher per centage on the latter price. The change has been chiefly brought about through the application of green sand marl, dug from beneath its own surface.

The geological survey of the State is developing still further the extent and value of these extensive beds of natural fertilizers. The query arises: can not this green sand marl, which exists in such unlimited quantities, be transported to neighboring sections of the country, at so low a rate as to be a cheap fertilizer? We learn that one company has already been formed with this design. Are there not a number of large beds near landing places upon the coast, which could be profitably opened, and the marl be carried in boats to the bays and inlets of Long-Island, as well as up the Hudson River, and also to the whole of the north side of Long-Island Sound?

We think this subject worthy the attention not only of capitalists, but of farmers and others interested in the culture of the soil. We have no sufficient data for answering this question satisfactorily; but if we may judge from the results already obtained by the use of this fertilizer at home, it is not entirely impossible that New-Jersey may yet contribute more valuable aid to the Agricultural resources of this part of the country, than has yet been derived from the far off islands of Peru.—Ed.

MINCE PIES WITHOUT APPLES.

To the Editor of the *American Agriculturist*:

Many will be deprived of their favorite mince-pies this season by reason of the scarcity of apples. In order to find a substitute, I have had some pies made by substituting for the apples, crackers and tartaric acid, as in making the cracker pies, and find it to answer the purpose admirably, so that few can tell the difference. H. A. SHELDON.

MIDDLEBURY, Vt., Dec. 15, 1856.

When molasses is used in cooking, it is a very great improvement to boil and skim it before use. This takes out the unpleasant raw taste, and makes it almost as good as sugar. When molasses is used much for cooking, it is well to prepare one or two gallons at a time

THE CHINESE SUGAR CANE.

DISTRIBUTION OF SEED, ETC.

A telegraphic dispatch from Washington this morning (December 26) states that :

The Commissioner of Patents is now sending to the State Agricultural Societies a parcel of Chinese sugar cane seed, raised under the direct supervision of the Patent Office, sufficient to plant sixteen acres, with a view of extending the culture of this plant. It has, since its introduction into this country, proved itself well adapted to our geographical range of Indian corn. It is of easy culture, being similar to that of maize or broom corn, but will prosper in a much poorer soil. A correspondent, writing to the Commissioner, speaks of the extraordinary richness and delicious flavor of the milk of cows which had been fed on that description of food

One sentence in the above is ambiguous ; is there to be only seed enough distributed to plant sixteen acres in all? or is there to be that quantity sent to *each* society? If the former be the case, we are rather ahead of Uncle Sam in this enterprise, as we were first in the field, and we shall distribute FREE among our subscribers alone, enough to plant more than *one hundred acres*. We suppose, however, the Commissioner will be able to furnish at least enough for sixteen acres to each State, and we are glad that this is the case. We wish to see a thorough and general trial made of this plant, without any such impositions upon farmers as have been practised by the introducers of some *new* things in years past.

Although we have really high *hopes* of the Chinese sugar cane, we frankly confess that we are not so confident in our opinion, as to recommend our readers to enter *largely* into its culture *before* the results of another year are known. We have on our desk some samples of syrup made from the plant in Georgia, and also on Long Island, N. Y. That made on Long Island has been pronounced by many persons who have tasted it, as fully equal to maple molasses, and yet it was manufactured by those knowing little or nothing of sugar-making. The juice was pressed from the stalks with two rude wooden rollers, and then boiled down in a brass kettle; the large quantity obtained is quite surprising. Our own experiments have been already briefly described. Mr. Peters, of Atlanta, Georgia, who experimented so largely, wrote us recently that we could not say too much in its favor. Many others in different parts of the country tell us the same story. Several persons say that cattle, and especially swine, eat the plant at all stages of growth with great eagerness. We kept our own plants for seed, and to give away as specimens of the stalks, and did not try them for feeding.

On the contrary, however, a few intelligent persons assure us that *their* cattle would not eat the *stalks* at any stage of growth, though the leaves have been greedily devoured. If only the leaves will be eaten, the plant will not be so valuable for fodder. We trust there is some mistake on this point with those who have not found it relished by cattle, as their experience has been different from that of many others.

Everything considered, we advise all who can to try a small plot next season, even as far north as Canada East. A few square

rods, planted at the same time, and cultivated like corn, will involve very little expense. It will be an interesting experiment, at least, and will furnish abundant seed for another season, should it be wanted.

We have already secured a large amount of seed, and are getting new supplies. Two packages are on the way from Europe, which we shall receive this month, if they meet with no accident. We can certainly distribute some two hundred seeds (FREE) to all subscribers to the Agriculturist who desire it, and who will furnish a stamped and directed envelop to send it in; and perhaps we can increase the amount to three or four hundred seeds.

TIME OF DISTRIBUTION.

We intended to send the seed out early in January, but it will take considerable time and extra labor to put up all the parcels now applied for; and as we are waiting to make the amount as large as possible, it may be six or eight weeks before we get through with the entire distribution. Those expecting seed, and not receiving it before, say the end of February, may conclude there has been some miscarriage by mail, and they will then please write us again, as we shall keep some extra parcels for such cases.—Ed.

HOW TO GET CHEAP TURNIPS.

Turnips are coming more and more into use among us for feeding stock, and it becomes a question how to produce them at the least cost. Even the white fleshed field turnips are valuable for feeding in early winter, and a good stock of them judiciously fed, tells a good story either in the milk pail or the beef barrel.

We tried an experiment with the eow-horn turnip, as a second crop after corn, the past summer. The corn consisted of about one acre, had been manured with fish applied to the growing crop in June, and yielded about sixty bushels to the acre. The soil was in good heart, but not highly manured. The seed was sown at the last hoeing, early in August. As the ground was shaded by the corn the turnip seed came up well, and the young plants made good progress even in dry weather. About the middle of September the corn was cut up by the roots and put in shocks. The turnips having the full advantage of the sun came on rapidly, and by the middle of October had made roots two or three inches in diameter and a foot in length. We thinned out the field, taking off about fifty bushels, and had a final gathering the last of November of over fifty bushels more. The whole expense of raising these roots was the harvesting, which we estimate at four dollars.

Turnips at four cents a bushel are a cheap fodder. The seed sowing was trusted to an inexperienced hand, or the yield would have been much larger. Full one third of the field was vacant. We think this the cheapest method of raising turnips, and purpose to follow it up until we find a better.—[Ed.]

Have important papers all together, where you can lay your hands upon them at once in ease of fire.

HAMS—PICKLE OR BRINE FOR.

We have made several inquiries for the best pickle for hams. The following two have been long used, and so far as we can learn have given very good satisfaction. The first is called the

NICKERBOCKER PICKLE.

6 gallons of water,
9 pounds salt, coarse and fine,
3 pounds brown sugar,
3 ounces saltpetre,
1 ounce pearlsh,
1 quart molasses.

Boil the whole together and skim.

After the hams are taken out in cutting up the hog, rub them over with fine salt, when they may lay a day or two in cold weather, if more convenient. Then pack them closely in a barrel or cask, and fill with the brine which may be used hot or cold, taking care to keep the hams entirely covered with it.

PICKLE No. 2.—A Long Island farmer of our acquaintance, who kills a large number of hogs, and whose hams are highly prized by epicures in this city, uses the following pickle:

8 gallons of water,
12 pounds of salt, coarse and fine,
3 pounds of brown sugar,
4 ounces of saltpetre,
1½ ounces of pearlsh,
1 quart of molasses.

We like the addition of the pearlsh. Soda would do just as well we suppose, as the presence of a free alkali will neutralize any acidity, (souring.) The second pickle is to be used in the same manner as the first. The hams are usually left in either of the above pickles for about *four* weeks before removing to the smoke-house.—Ed.

POOR EGGS.

There is considerable complaint at this season, and will doubtless be still more a few weeks later, of the poor quality of eggs which have been preserved in lime or pickled. A housekeeper lays her complaint before us, and says that she paid four shillings for sixteen eggs, and only nine of them proved to be sound. We cannot help her out of the difficulty, further than to tell her and others that is a very easy matter to test the goodness of eggs. Take them to a moderately dark place, and hold them between the eye and a candle or lamp. If the egg is good—that is, if the albumen is still unaffected—the light will shine through with a reddish glow, while if the egg is affected, it will be opaque or dark. A few trials will show any one the ease and simplicity of this method. In Fulton and Washington markets a man may be seen testing eggs at almost any time of the year. He has a tallow candle placed under a counter or desk, and taking up the eggs, three in each hand, passes them rapidly before the candle, and deposits them in another box. His practiced eye quickly perceives the least want of clearness in the eggs, and suspicious ones are re-examined and thrown away, or passed to a “doubtful” box. The process is so rapid, that we have seen eggs inspected perfectly at the rate of one to two hundred per minute, or as fast as they could be shifted from one box to another, six at a time.—[Ed.]

WORK FOR STORMY DAYS.

These days will come at this season of the year, terrible snow storms, beating rains, and fierce winds, in which no work can be done comfortably in the field or forest. The cattle are all housed and fed, the tools are all in order for the spring work, and the annual supply of fuel is prepared. What next?

Most farmers ought to read and think far more than they do, and introduce system into all their operations. Head work, then, is the business for these stormy days in winter. If you have the back volumes of a good agricultural journal you will find genial assistance and company in this head work. First lay your plans, what fields shall be planted with given crops, what seed and what manures for each, what shall be sub-soiled, and what under-drained, &c. Having done this, search the volumes to find what has been written upon these topics. Reading with an object in view is far more profitable than reading for amusement. This will fasten principles in the farmer's mind, and make him intelligent in his business. He is like a lawyer consulting his volume of reports to ascertain what principles of law have been determined in the decisions that have been given. He consults his book of cases with some case of his own on hand, and reads with deep interest every case that has any bearing upon his own.

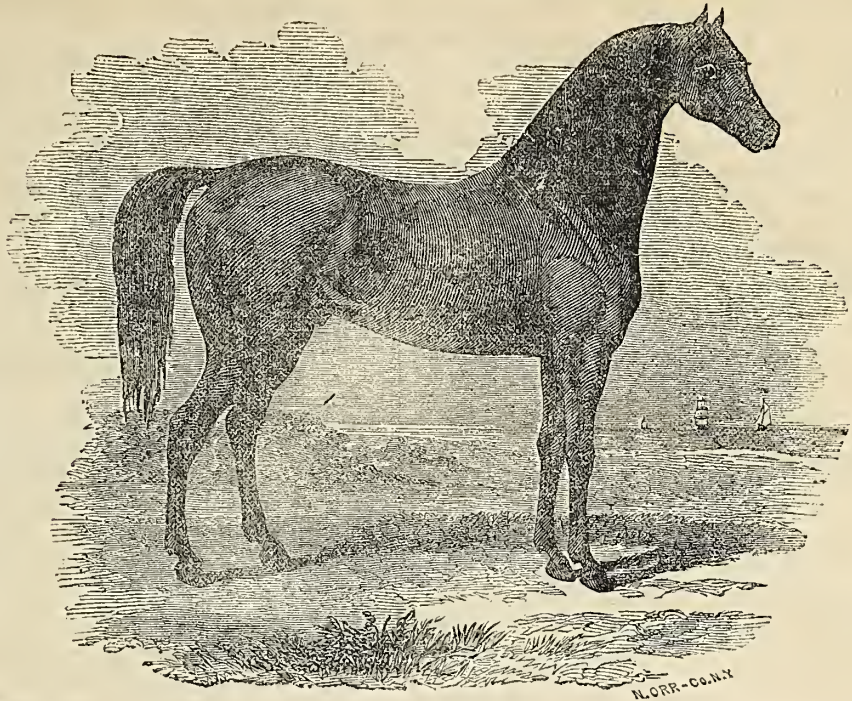
The farmer has always cases on hand—principles not yet fully determined. Now is the time to read up and resolve doubts, to ascertain the best method of performing every piece of work to be done next summer. For ourselves, we have no greater luxury in these cheerless days than to get down the back volumes of these journals and see what our brethren of the plow have been doing these past 10 or 15 years. These books of farm cases will be profitable just as we read them up and master them. Such reading makes the practical farmer skillful in his business.—[Ed.]

SINK DRAINS IN WINTER.

Every wise cultivator knows what to do with soap suds that run from the sink-spout in summer. The growing crops need no herald to proclaim the secret of their luxuriant foliage. But what shall be done with the water when the crops are gathered, and the tub for collecting it is turned up for the season? If your sink drain enters into a manure vault that is enough. But there are thousands who have not yet waked up to that institution.

Rather than let the water run to waste upon the surface, dig a large hole and put in a cord or two of muck. This will catch the water, and the whole mass will become saturated by spring—a good article for the compost heap or to spread directly upon the garden and spade in. Try this for a single winter and mark the result in the summer crops, and you will no more suffer this waste upon your premises.—[Ed.]

The man without ideas has generally a great idea of himself.



BLACK HAWK.

Foaled in 1833, the property of Wingate Twombly, Greenland, N. H. Sire, Sherman; grand-sire, Justin Morgan. Dam raised in New-Brunswick, a half-blood English mare. Black Hawk is now owned by David Hill, Esq., of Bridgeport, Vt.

We love to look at and study a well formed animal of any kind, and especially a horse. Next to the living animal is a good portrait, and we are glad to present the above well executed picture taken from the Morgan Horse-Book just issued by C. M. Saxton & Co.—[Ed.]

IMPROVED KING PHILIP CORN.

This variety of maize has been sent out from the Patent Office for several years past, and is now quite generally disseminated. It originated on Long Island, in Lake Winipisiogee, New Hampshire, on the farm of John Brown. He claims for it early maturity, small stalk, small cob and a large yield of grain. From what we can learn it appears to make good the claims of Mr. Brown.

We cultivated about one-eighth of an acre of it the past summer. The yield was twenty-one bushels of ears, making about eighty bushes to the acre, which was a large product from soil in no better condition. Other producers have reported one hundred bushels and over of shelled corn to the acre. It ripens very early, gives a long good-sized ear, a large kernel and small cob.

We think it a very desirable variety for the northern parts of all the northern tier of States, and for low and wet lands liable to early frosts, still further south. It is of great importance to have corn well ripened. With this variety turnips may be sown at the last hoeing in July, and a good crop be secured. The corn will do to cut up by the 10th of September, leaving the turnips full possession of the land for sixty days before the ground is frozen.

At present we can see but two disadvantages in the cultivation of this variety. The stalk being small is more likely to be broken down by the August winds than the larger kinds, and the ears coming out low on the stalk frequently break off, and fall to the ground, where they are liable to sprout and mold. For deep rich soils and warmer climates, we do not think it any improve-

ment upon some of the old varieties. A farmer, in selecting his seed corn, must study his soil and climate, and procure the variety best suited to his position. The improved King Philip is a very desirable kind for the localities we have indicated.—[Ed.]

CRANBERRY CULTURE—EXPERIENCE OF A SUCCESSFUL CULTIVATOR.

Having had an unusually large number of inquiries for information upon the culture of cranberries, we addressed a note to Mr. Bagley, of Usquepaug, R. I., and also forwarded him a couple of the letters sent to us, requesting a plain detailed statement of his experience. Below we give his reply, for which we are much obliged. We only know Mr. B. from having seen a considerable quantity of superior cranberries, of his growth, in the New-York markets:

To the Editor of the American Agriculturist:

In reply to yours of 10th inst., I will give you my experience, hoping it may not only prove beneficial to others, but also elicit further information from them through your columns. It is to be regretted that so little attention is paid to the culture of the cranberry, one of the luxuries by which many farmers might make large profits.

I commenced the culture of the cranberry as an experiment, in a small way, in 1849, on a peat swamp, and finding my experiment successful, in 1851 and '52 extended my operations, and now have about ten acres under good cultivation. My method is as follows: I take off the stumps, roots and moss, to the bottom of the roots, about one foot deep, and carry them on the upland. I then mark out the ground with the corner of the hoe, about two feet each way, and drop, say half a dozen vines, having the roots all one way, in the hoe mark, treading the roots in and covering them with the foot, leaving

the tops just out of the ground. I then keep them clear of grass and weeds with the hoe, until the runners get in the way, which should not be disturbed, but left to root and cover the ground as soon as possible, for they will not bear a full crop until they cover the ground with a thick coat of vines—from three to five years after setting. I keep them clean by pulling up the grass, &c., by hand, until they become matted, after which there is but little to do but gather the fruit.

I flow my meadow about the 1st of December two feet deep, keeping the water on until about the 10th or 15th of May, when I draw it down, leaving a little water under the vines as long as there is any danger of late frosts, then draw it just below the surface, keeping it there until it dries up. There being no stream on my meadow it is flowed by rains. My meadow is ditched, and I find it necessary to keep those ditches open to draw off the water in case of heavy rains in the summer, as water is sure to spoil the blossoms or the fruit if it stands on them when green.

I commence picking my crop when my earliest varieties get ripe, about the 20th of September, and gather them all by hand, as I find the rake injures both the fruit and vines. The fruit will not keep as well, and the vines will not bear as well, if raked.

My first crop of any amount was in 1854, about 40 bushels; in 1855, about 220 bushels; and this year about 350 bushels, which would probably have been 600 or 700 bushels, but for some unfavorable circumstances of the season.

Your correspondent from Otego, inquires if they can be raised from the seed, and how much longer it takes to get a crop. In the fall of 1849 I sowed about 30 square rods of my swamp, (which had been cleared as for setting,) with refuse cranberries, and gave little or no attention to it afterwards. Grass, briars and brush, overrun it, but the cranberries came up and grew. This fall I found the grass nearly all dead, and took a hand with me and picked what berries there were, and cleared it of brush, &c., and next year I shall probably get a good crop from it, as the vines look well. With care I think a crop may be got sooner from the seed than I have obtained them in this instance; but the set vines will be three or four years in advance of the sowed, for they will bear some every year after setting.

The plants which I have set having been collected from the wild bogs in this vicinity, where ever I could get them, consist of many varieties, mostly mixed together, but in some two or three instances I have found whole beds of one variety. One of these is the Bird Cranberry, a very small, rich berry, and the best keeping that I am acquainted with. This berry can now (December) be seen at Messrs. Drev & French's, 85 Barclay street, New York, where it is for sale.

Another variety, which I call the Prolific, was obtained or taken from a place where it was in the water most of the year, and had to grow tall to get out of the water. This peculiarity it still retains in my meadow, growing tall but not spreading as fast as other plants. These two varieties are great bearers. Two other kinds I have obtained by much trouble, but in so small quantities that I have not yet got as many plants as I want to set. These are, first the large black, and the most splendid cranberry that I have ever seen, and the Black Bell, also a very handsome fruit. These I consider the most valuable for market, and they will probably bring the highest price of any ever offered. Of the former, I have never had enough to send to market, and of the latter only two half barrels. The reason why I have not offered plants for sale is, because I have not

had any of these two most valuable varieties to spare.*

Cranberries may be set at all times when the ground is not frozen; but I consider June and July the best time, if it is not too dry. The vines or plants may be set and do well without any roots, if set deep in moist soil. I consider pure peat the best soil for cranberries. It is light and porous, and needs no other preparation but clearing up; though it is better to expose the surface to the action of the sun, rains and frosts, one year—this will prevent its baking. But avoid burning it over in a dry time, as that will almost destroy its productive qualities for all plants. Next to peat is pure white sand, on a wet bottom, say six inches thick.

Your correspondent, L. H., wishes to know about the Upland Cranberry. He probably refers to those which grow on the barren hill-tops, and sterile lands around the upper lakes and Canada. The plants I have never seen, but they may be obtained of F. Trowbridge, New Haven, Conn., at what price I do not know. [See advertisement.—Ed.] I have experimented with the common cranberry on upland, but as this article is getting too long for the patience of you or your readers, I will refer you for further particulars of my experience in the culture of the cranberry, to my communication to the American Institute, probably published in their report for 1855, (which, by the by, they promised to send me, but have not done so,) or to another communication in Rev. B. Eastwood's Manual for the cultivation of the Cranberry.

If any further information that I can give, is desired, I will cheerfully answer such calls at all times. E. BAGLEY.

Usquepaug, R. I. Dec. 15, 1856.

*In answer to our direct questions, Mr. Bagley states that he can furnish the common cultivated varieties (good bearers) for \$3 per 1,000; the Bird for \$4; the Prolific for \$5; and the large Black and Black Bell, when he has them, for \$7 per 1,000.—[Ed.]

THE JAPAN PEA.

This we have not yet tried, as our first impressions were not greatly in its favor. We first saw them cooked, upon the table of a friend, and were not specially pleased with the flavor. As we have seen them growing, the large spreading branches, the hard woody character of the stalks, which unfit them for feeding, and the small number of peas in the pods, seem to be against their adaptedness to general cultivation. Others are better pleased with them. Mr. Thos. R. Joynes, Jr., of Accomac, Va., writes as follows;

On the 9th of April I planted a row of about 20 yards in length, the seed about three inches apart in the row. They came up very regularly, and for several weeks grew very slowly. But about the last of May, upon the approach of warm weather, they grew very rapidly, and after attaining the height of about 2½ feet, began to throw out a large number of short downy pods, containing some two and some three peas each—none more than three.

They were gathered about Oct. 1st, and yielded about six quarts of beautiful plump, rich, yellow or cream-colored peas. I think they would have yielded more had they not been sown so thickly. The stalk is hard and woody, and grows perfectly upright, without vine, and but a few short branches. I have not tried the stems as provender, but I doubt if they will prove good, owing to their hard woody nature. The leaves resemble, in general appearance, the ordinary dwarf garden bean, but are more downy and rough.

As to their eating qualities, I can only say, that I have just risen from the table at which I made my first trial of them, and I want nothing better. They make a rich and most excellent dish—superior to no bean or pea I have ever seen.

We think, on further trial, Mr. Joynes will be less pleased with their eating qualities—at least such has been the experience of most of those who have attempted to use them for culinary purposes.—[Ed.]

EXPERIMENTS WITH POUURETTE.

To the Editor of the American Agriculturist.

In response to thy request for reports of careful, accurate experiments, I forward the following: Last winter, I was led by a finely got up circular, well backed by certificates over signatures of responsible men, to send to New-York city for a barrel of "New and Improved Poudrette." I was not pleased with its first appearance, as there were many lumps, which on breaking with a hammer, proved to be "stone coal;" and also considerable material of a lighter color, resembling fine river mud. There was also a very small amount of coal cinders. I, however, determined to give it a fair trial, and applied it as follows:

Upon a lot of early cabbages, just commenced growing after being transplanted, I applied a handful to each plant, by removing the earth, and placing it on each side, near the roots, covering it with soil. I selected one plant—about an average—to which I applied none, and placed a stake by it. I soon discovered a little difference in favor of the plant by the stake, which difference continued throughout the season. This was not a fair trial—I should have left more than one plant.

I put in one end of a drill of peas with the seeds—about a handful to eighteen inches. This made no show whatever.

I applied it in the same manner with the seed of early horn carrots. It prevented the seed from coming up quite as well, but I could see no difference in the growth of the roots.

I applied it the same way with the seeds of nasturtium. It burned so as to nearly cause a failure. The part of the row to which I applied, nothing did well. Why should a little night-soil, mixed with coal dust and river mud, burn tender plants, unless the mud was obtained from the margin of salt water?

For Lima beans, I removed the earth one inch deep, and scattered a handful in each hill, and planted the beans on it. To a part of them, I applied nothing. They all came up well, and made a good crop. But I could discover no difference in them at any stage of their growth. These experiments were made on a tolerably good garden soil, with a dressing of stable manure spaded in. Now for the field:

Potatoes.—Planted large tubers cut in half, dropped one piece in a place, about eighteen inches apart, in drills, and put half a handful of poudrette to each piece, in a few rows, and with the balance nothing. By weighing the product of a corresponding number of rows, there was a difference in favor of the poudrette of about one hundred and thirty pounds to the acre. I applied it to a few rows of corn, by putting a handful in each hill, scattered a little, before the corn was dropped. On either side applied nothing. I could never see any difference in the growth of the stalks or ears, or the time of ripening. Did not measure the product. The ground for both the corn and potatoes was manured with cow stable manure plowed in. It was planted with corn the preceding year, manured as above.

I approve of the editorial remarks on agricultural exhibitions in thy last number, and our county exhibitions are fast declining into the same evil practice, insomuch that the sober thoughtful portion of community are withdrawing from them, notwithstanding "Quakers" are found among the managers.

AN OLD PLOWBOY.

BUCKS COUNTY, Pa., 12th month, 1856.

A FARMER'S RAINY DAY RAMBLES—NO. II.

To the Editor of the American Agriculturist:

According to invitation I called on neighbor Thomas on another rainy day, and, without further preface, I will relate something about his garden and fruit trees. His fruit garden contains about an acre, the greater part filled with trees. He said he could not afford time nor money to attend to flowers, except rose bushes and flowering shrubs around the house, that required little care. "Instead of these, I line my walks with currants and gooseberries, and those of the best kinds, for I find I cannot afford to raise poor fruit. They very often require more attention with not half the profit. Here I have a small stock of young trees, for, as I said the other day, I like to be independent. They require very little attention; and when a tree decays, or an ornamental shade tree is required, here they are. Any one who has a garden can, by collecting seeds and nuts, or transplanting small trees that we find in the woods and along the fences, raise his own trees either for ornament or use. To those that have no trees to begin with, I advise to go to the nurseries and procure the best. But where they cannot afford the expense, then, I say there is no excuse, for in every part of this country seeds and young trees or cuttings can be obtained of some good kind.

"When I see a man, for a succession of years, live on in a house unadorned by fruit or shade trees, I think something is wrong about him."

In the other part of the garden are pear trees. "I find," said he, "that by manuring liberally, and planting my vegetables between the rows, good crops can be raised of both. We can have a pear orchard in bearing sooner than apples, if we get the early bearing kinds, and everybody must admit they are far better." The trees are about 14 feet apart, and of many different kinds, ripening in succession eight months of the year, and they are more profitable in every sense than apples, either for the desert or cooking purposes. With him, pears are a pretty sure crop every year, while apples often fail of bearing. He finds he can ripen them in the winter, and have as good pears as in autumn. They require to be excluded from light, and the temperature kept as regular as may be. They are put in a dry cellar or room, in boxes or barrels, and covered in successive layers with oats. He has found nothing better. By this process they are excluded from light, and the heat varies but little, and if the early ripening kinds are placed on the top, and the last at the bottom, they need not be disturbed.

As to the kinds selected, he said "many make a greater ado about the kinds of fruit, than the care they take of them after they have them. Make the tree good by proper attention to its wants, and in most cases the fruit will be good too. You must not believe all the fruit-books advocate, for the experiences of the writers are often limited. A particular variety of fruit may be successful in one place, but the soil and climate may vary so much that it will be worthless in another, and then the author or compiler will be blamed. Go to the fairs in your vicinity, and see the specimens there; ask the exhibitors and every one else that has had experience with different kinds in the section of country where they reside,

and you run but little risk. If a new and untried sort is desired, the better plan is to procure one and take grafts from it, and insert them on thrifty bearing trees. Then if it proves a good purchase, you can continue grafting or procure new supplies. If not good after two or three years' trial, graft the trial trees over again with some other kind. But don't be discouraged the first or sometimes the second year it bears, for some of the best I have were poor at first fruiting. I consider the man that plants pear trees in sward ground, and allows the grass to grow around them, does worse than throw his money away, for he loses his time and labor too, besides discouraging others from making the attempt.

Another object of importance with me is, to make home attractive to myself and family. We know how pleasant it is, after a day's labor, to find comfort and plenty in the house when we return, and equally so is it to me to have trees of beauty, loaded with ripening fruit, around my homestead. As we look around our dwellings, and see the different kind of fruit trees, covered with blossoms, or luscious fruit, we forget our weariness, and they never taste better than then.

This is the way to make farmers' boys love home, for what boy is there that does not love fruit. No matter how far they are separated from the old fireside, home and fruit will be remembered together. I give my sons the management of the nursery; they like the employment, and it can be attended to in those little odd times through the summer when we are ahead of our farm work. If my boys buy farms, and as it is nearly always the case there are not trees enough, here they have a supply. You will almost always see the boy that engages in cultivating flowers and fruit, kind and gentle in his manners. You will not find him with the fast young man, with their fast horses, going to all the doings in the country, and reckless in their habits, but he will rather choose the company you prefer him to have—the intelligent and virtuous. There is more in rendering home attractive to your children, by adding to their enjoyment, than many are aware of."

But to return to the nursery, and his method of raising young trees. He said: "We cannot have trees in variety or value, as nurserymen have, but plant one or two hundred pear seeds and if but half succeed there will be enough to commence. So with apples, plums or cherries. The chief thing is to make the ground rich for the young trees, and keep it clean. Quince trees can be raised with great ease and certainty by cuttings. The same is true of some kind of elms, willows and poplars, and of currants, gooseberries and grape vines. All it wants is "perseverance and good culture." He showed some old pear trees he had grafted over with Bartlett and other improved kinds. They will bear mostly in three years afterwards, and in a few years they will be loaded. If the tree is moderately thrifty, he grafts all the limbs that are not more than an inch and a half in diameter. It is not best to take much larger limbs, for the wood will decay before the scions cover it. If the tree is not thrifty, he saws off the limbs of the size mentioned, and grafts or buds the sprouts from them. It is astonishing how much more thrifty in growth, and healthful in appearance, these trees are, especially when covered with golden fruit, instead of the native or old choke-throat trees. He says he pities the owner who has fine trees loaded, often with worthless fruit, when he can so easily and in a short time have the best in abundance.

As my sheet is full, I must furnish my neighbor's account of his apples another time. S.

NORTH HEMPSTEAD, L. I.

E G G S.

How to get a large increase at little cost, and secure other advantages at the same time.

It is pretty generally agreed that the best way to make hens lay rapidly is, to supply them liberally with animal food. Hens are not very fastidious, but will eat worms, decaying meat, intestines of animals, and, indeed, anything of the flesh kind, and convert it into nice "hen fruit." Now, why can not all the butchers' offal, and refuse animal and vegetable matters, so abundant in our cities and large villages, be profitably fed to poultry, and thus greatly augment the production of eggs and poultry meat at little expense? There would be an additional and great advantage in the removal of what is frequently a great nuisance to our olfactories, and decidedly deleterious to health. There is an incredible amount of these matters constantly wasted, every particle of which, originating in the city slaughter-houses, might be saved and made useful. Were these located in the country, at various points on our railroads, so as to admit of certain and immediate transmission of meat to the city, extensive *henneries* might be established in connection with them, where the poultry could have a free range to insure *health*, while they derived their food mainly from the offal. With a warm shelter, the animal food thus fed to hens would insure their laying during Winter equally as well as during warm weather. Nothing so effectually secures this as the use of animal food, and every part of the butchers' offal, when fed to hens in a form that they can swallow, is valuable for this purpose. Eggs produced in the winter, and near large cities to which they can be sent fresh, are worth from two to three dollars per hundred, at which rate much of the offal that is now thrown away will pay nearly as well by feeding to poultry, as the good meat will sell for to consumers. Here is an important consideration for the thrifty and philanthropic. There are inducements enough to bring the faculties of each of these estimable classes of our citizens into full play, as, besides filling their pockets, they will sweeten the atmosphere and render it more wholesome.

We are glad to learn that the directors of the Erie Railroad propose setting apart extensive accommodations, some distance beyond Jersey City, for slaughter-houses. A very commendable project. But individuals ought to do this at various points, on every avenue leading to our cities, where animals are now kept for slaughter.—[Ed.]

UNITED STATES AGRICULTURAL SOCIETY

The Fifth Annual Meeting of the United States Agricultural Society will open at the Smithsonian Institute, Washington, on January 14th. The exercises will consist of: distribution of the Journal of the Society for 1856; awarding of premiums on field crops; election of officers for ensuing year; action upon propositions for the next annual exhibition; a lecture by Professor Henry, upon Science applied to Agriculture; another lecture upon the Grasses of the United States, by Charles L. Flint, Esq., Secretary of Massachusetts Board of Agriculture, together with other lectures, discussions, &c.



MANUFACTORY OF SPECIAL MANURES.

MONDAY.

Foreman—Well, boss, what's on hand to-day?

Director—Make up another batch of Superphosphate. Be careful to get black muck enough in to give it a darker shade than that made on Saturday. Use three barrow loads of muck, only two of the red bank, one small barrow load of burned bones, as much of the sugar-house scum, a small measure of guano, and a mug of oil vitriol. If it don't have a good smell, add a little lime.

Foreman—All right. How shall we mark the bags?

Director—Superphosphate A No. 1, of course.

THURSDAY.

Foreman—We are out of that chee-chee—guano, what d'y'e call it?

Director—Put all hands on then. Remember now, six men on the red earth bank, three at the muck heap on the lightest colored part; mix well together, and put in lime and guano enough to give it a good smell. Mind now, don't get in too much of the guano. That is expensive. We must make enough on this lot to pay a good per centage to agents, and have something left for profit. Be careful to damp the bags and roll them in good Peruvian guano before filling them. They are all marked right.

A MACHINE MILKING TRIAL.

To the Editor of the American Agriculturist.

Having read your notes and queries in the December Agriculturist upon Milking by Machinery, I send you an account of a trial of Needham's Machine, to which I suppose you refer in speaking of the "New-Hampshire Yankee's" patent. This consists of an air-tight pail with an air-pump upon the side, and a gutta percha tube fastened upon the top. This tube terminates in four receptacles for the teats, each division being supplied with a stop-cock. When the receptacles are placed upon the teats, the air is pumped from the pail, the stop-cocks opened, and in consequence of the vacuum formed, the milk rushes from the bag—provided everything works right. But there's the rub. I witnessed a trial before a Committee of the American Institute, recently, and was both amused and edified.

The first operation is to get the teats into the receptacles, and he who undertakes it has need to be "well grounded in patience." After a number of ineffectual efforts, one teat was at last got in, and the operator proceeded to a second. I now thought everything would proceed regularly and satisfactorily, but when the second teat was almost in, the first slipped out, and the operator had to begin *de novo*; but his patience and perseverance were admirable. After a number of repetitions of this mishap, two teats were finally got in their places, but just as he began with the third, they both slipped out! It was too vexatious, but still the operator's patience did not fail him; and I confess a feeling of sympathy, laughable as was the scene.

The operator began again, and after many fruitless efforts, finally concluded to try one teat. Having at length secured it in the receptacle, the valve was opened, the pump put in motion, and for a moment the milk flowed in a rapid stream; but suddenly it stopped, and no amount of pumping would bring forth another drop. During all this time the cow stood comparatively quiet, but

she now became restive, kicked up her heels right and left, and the by-standers, hitherto as "quiet as lambs," now went "skipping about like rams," and thus ended the trial of the patent cow milker. The time consumed in the above trial was a little more than one hour. The chief defects of the milker were obvious: the connecting tube was too small, and the receptacles not at all adapted to receive or retain the teats. But even with these improvements, it may be doubted whether it can be made an article of general utility. I do not feel convinced that cows will generally submit to be milked in this way; besides, the time consumed in attaching the milker is more than enough to do the work by hand. If these difficulties can be overcome (and I hope they may), there can be no doubt that a milker of this kind would be a great boon to dairymen. I hope that Mr. Needham may hereafter achieve a success which his patience and perseverance deserve.

M. B. P.

NEW-YORK, December 10, 1856.

THAT CHINESE POTATO.

To the Editor of the American Agriculturist:

I notice in the "Country Gentleman," an advertisement of Messrs. W. R. Prince & Co. of Flushing, in which they represent themselves as having the "only Chinese potatoes of American growth." Is this so? and of the quantity of seed sold by them, and disseminated by the Patent Office, by the Thorburns and others in countless thousands, has the yield been *nothing*, except in their isolated case? Or has the crop of every one else, as represented in the engraving you gave in your last number, gone *home* to our antipodes? There is a hitch somewhere—where is it?

HUMBUG.

NEW-JERSEY, December 18, 1856.

APPLES—BEST VARIETIES FOR GENERAL CULTIVATION.—M. G. D. and other enquirers will find this subject fully discussed in the October number of last volume.

Garden, Orchard, Lawn, &c.

CHAPTERS ON STRAWBERRIES.

CHAPTER I.

We propose in a series of brief articles to take up the culture of the strawberry, giving from month to month practical directions for the work appropriate to the season, both for garden and field culture, and interspersing the whole with such remarks upon the nature, varieties and characteristics of this interesting and valuable plant, as we may have room for, and as may seem to be most pleasing and instructive to the general reader as well as amateur.

It being impossible, at this season of the year, to commence or carry on any actual process of cultivation, we will, in this number, enumerate the principal kinds found growing wild, both in America and Europe, from which all our cultivated varieties have been obtained, together with a few brief remarks upon their characters.

In the United States, we find growing in our fields the small sweet red strawberry, called by botanists *Fragaria Virginiana*. This is found in all the Middle and Northern States, and also in Canada and Newfoundland. In the Southern states it grows only in the woods. This is the parent of many of our cultivated kinds. It is also the parent of some varieties raised in England. The large early scarlet, so well known in the New-York market, was raised from the seed of this species. The Hudson Bay and the Crimson Cone are also varieties of the *Virginiana*. Hovey's Seedlings and Boston Pine evidently partake of its nature.

There has also been found growing wild in the prairies of Iowa, a large beautiful strawberry, quite distinct from the *Virginiana*. Its only fault is that of being too acid (sour.) Some vigorous and productive varieties have been produced from this kind, but they all partake too much of its sourness.

In South America, we find two species—the *Grandiflora* of Surinam, and the *Chili* of Chili. The first is remarkable for its large showy blossom, large and delicious light scarlet fruit. Some of the finest kinds now raised in Europe have been produced from the seed of the *Grandiflora*. The *British Queen*, and *Myatt's Seedlings*, and the *Swainstone Seedling*, all delicious berries, have been raised from this species. These varieties succeed well in the moist and mild climate of England, but are almost sure to fail in the United States. They are injured both by our severe winters and scorching sun.

The *Chili* is a very large and solid berry, of medium goodness, but is quite too tender for the Northern States. In the Southern States it would burn up. Some seedlings have been raised from it in England, but none, we believe, of much repute, except *Turner's Pine*, which is valued principally for its lateness. Some seedlings have been raised from this species by Mr. Prince, of Flushing, but they have not, we think, been sufficiently productive to recommend them to any but amateurs.

Europe, we believe, claims three species

of strawberries—the Common Wood, the Hautboy and the Alpine. The wood strawberry is a small conical berry, dry and seedy, but of an agreeable flavor. It is a very productive kind, and valuable for its habit of continuing a long time in fruit. One peculiarity of this kind is, that it does not sport (change its character) when raised from seed; there is consequently but one variety, except that some are red and some white. The Hautboy is a larger fruit than the Wood, and darker in color. It has a large blossom which is elevated quite above the leaves. The fruit has a peculiar musky flavor, agreeable only to a very few persons.

The Alpine grows upon the Alps. It is an everbearing variety. The fruit resembles that of the Wood strawberry, and is of three colors, red, white and green. The green is very scarce in this country, valuable only as a curiosity.

The Alpine strawberry is raised in Europe for a supply of fruit after all other kinds have gone out of bearing. It is not very productive, and requires much care and copious watering to keep it in bearing during the summer. In our hot and dry summers it is not worth cultivating, unless one is willing to plant and tend a large bed for a small return.—[Ed.]

EVERGREENS—RAISING FROM SEED.

To the queries respecting the Hemlock (*Abies Canadensis*) and the Arbor Vitæ (*Thuja Occidentalis*), we answer: These varieties of evergreens, and also the Spruce and White Pine, have until recently been chiefly taken from those localities where they spring up naturally. But the many failures in transportation, and the coarse character of the wild plants, have led nurserymen to turn their attention to producing them from the seed, or importing them from Europe (mostly from Great Britain). We give a few directions for the guidance of those wishing to produce a stock of seedlings.

The seed may be procured from the seed-dealers, or gathered in the forest. It always produces plants true to its kind.

Prepare beds from four to six feet wide, and of any required length, by spading and trenching the soil. Place a frame around them, made of boards say about one foot in width, nailed together at the corners. Sow the seed in April or May, either in drills or broadcast, and cover rather lightly with loam, or, what is better, a mixture of loam, decomposed leaves and muck, which will make a soil nearly allied to that in which they grow best naturally. The seed will vegetate in a few weeks, when the beds should be carefully watched, and the tender plants shielded from the direct rays of a scorching sun, and still not kept in a total shade. Brush laid across the frame makes a good shade; or a covering may be formed by nailing laths to strips of board, leaving a space of about half an inch between the slats. Either of these coverings, as the sun passes over them, casts a shade much resembling that made by the branches of the living tree to the plants which spring up be-

neath it. The screens should be laid over the beds during each hot day, as soon as the sun shines directly upon the plants, and removed towards evening, when the rays are less powerful. The narrowness of the beds allows of their being weeded, and the ground carefully stirred, without going upon them. Water should be given occasionally, and the screens left off during rains. The plants may grow in the seed-beds for two or three years, when they are to be carefully transplanted into the nursery rows, keeping the roots covered and moist during the operation. It is essential that the ground be thoroughly and deeply stirred in the nursery, so that abundance of fibres may be formed, and an after transplanting to the lawn, pleasurc-ground or hedges, be done with safety.

Another, and perhaps a better plan, especially if one has green or hot-houses, is, to sow the seed in March or April, in boxes of prepared mold, peat, &c., placed in the houses, watering as is necessary, but guarding against "damping off," by having drainage at the bottom of the boxes.

As the weather becomes mild, expose them to the open air, but not to a hot sun. By the latter process the plants can be more readily attended to, and the earth kept in a proper shelter, or exposed, and watered when needed. After growing, say two or three years in the boxes, they may be transplanted into the nursery rows, as above directed, when the after treatment is very easy and simple. The greatest care is requisite during the first year, as too much sun, or dryness, will burn them up, and too long continued moisture will cause them to damp off. Water should not be given too frequently, but the ground thoroughly wet whenever it is done.

The plants should be protected during the first winter, by placing the boxes in cold frames, dry cellars, pits or cool houses, admitting air and light to them frequently. If in beds surrounded by frames, cover with boards or evergreen brush, not, however, excluding the light, which is essential to a healthy state.

The above directions are equally applicable to the Arbor Vitæ, Hemlock, Spruce, Cedar, White and other Pines.—Ed.

PEACH STONES—KEEPING AND PLANTING.

A subscriber who has collected a quantity of peach pits, and who expects to remove West in the Spring, asks if he can keep them over till another Fall, &c.

They can be preserved that length of time, and retain their vitality, by keeping them in a dry place, but they may not vegetate the first year, if so kept. If our correspondent can plant by the middle of April, we advise putting the pits in sand or earth now, and expose them to the frost. They will then be ready for planting as soon as the ground can be worked in the Spring, and will grow at once. If they can not be planted before April, it is better to preserve them in a dry state, and then crack them in the Spring or early part of Summer (the earlier the better), and plant the kernels (meats) only, which will very soon vegetate.—Ed.

A CLERGYMAN'S GARDEN.

We have upon our list of subscribers quite a large number of clergymen and professional men, and for their benefit we give the products of the garden of one of our clerical friends for the year 1856. It is offered, not exactly as a model, but as showing what may be done with a little land, gentlemen who can only devote an hour or two a day to its cultivation. The garden consists of about an acre and a half. It is cultivated with a view to supply home wants, and it is only the surplus that is sold. The family consists of eleven individuals, the stock, of a horse, cow, four pigs, and forty hens. The garden has been under cultivation for six years, and a part of it has been trenched two feet or more deep. The principal manure used during all these years has been made upon the premises, from a compost of muck and stable manure. Not less than one hundred cords of muck have in this time been worked into the soil. The value of the products is estimated at the market price.

The labor done in the garden, manure, seeds, &c., are estimated at two hundred dollars, which is very liberal, as all the manures were made upon the place. The estimate for the increased value of the young trees will not be thought too large, when we consider that the most of them are well established, and many of them are beginning to bear.

Four thousand ears of Stowell's sweet corn.....	\$40 00
Two hundred ears of July sweet corn.....	2 00
Corn fodder.....	3 00
Lima beans.....	10 00
Scipios and white kidneys.....	3 00
Twenty bushels of Carpenter potatoes.....	20 00
Six bushels of sweet potatoes.....	9 00
One hundred and eighty bushels of carrots on thirty square rods.....	45 00
Five bushels of beets.....	2 00
Ten bushels of onions.....	8 00
One bushel of oyster plant.....	1 00
Egg plants.....	2 00
Celery.....	5 00
Thirty bushels of parsnips.....	15 00
Three hundred pounds of asparagus.....	15 00
Cabbage, cauliflower, kale and kohlrabi.....	3 00
Sixteen bushels of ruta bagas.....	6 40
Red strap leaf turnips.....	1 00
Two hundred bunches pie plant.....	20 00
Lettuce.....	2 00
Cucumbers.....	2 00
Sage, Summer savory, parsley and other herbs.....	1 00
Three hundred roots of pie plant on hand, Myatt's Linnaeus, Victoria, and seedlings.....	30 00
The growth on twenty-three apple trees in their fifth year.....	16 00
The growth on two hundred pear trees.....	40 00
Ten dozen pears, Vicar of Winkfield, Virgalieu, Louise Bonne de Jersey, Glout Morceau, &c.....	10 00
The growth on one dozen cherry trees beginning to fruit.....	3 00
The growth on one dozen plum trees.....	3 00
One bushel peaches.....	2 00
Quinces.....	50
One bushel of grapes, Isabellas, Catawbas, Dianas, &c.....	3 00
One hundred layered plants of the above.....	25 00
Growth on ten planted vines.....	5 00
Six dozen Lawton blackberry plants.....	18 00
Five bushels of strawberries, Hovey's seedling, Walker's seedling, Longworth's Prolific, and McAvoy's.....	40 00
Plants sold.....	11 00
Raspberries, Franeonia, Falstolf, Yellow Antwerp, &c.....	10 00
Young plants on hand.....	20 00
Water-melons, green imperial, orange, Bradford, &c.....	4 00
Nutmeg and Green Bay melons.....	5 00
Currants, gooseberries, &c.....	2 00

Total.....\$461 90

The amount of profit would be considered

small by many professional men who have large incomes, but it is an important item with our clerical friend, and the garden contributes largely to the health and comfort of his household. In the item of health alone, he considers that it pays, even if there were no pecuniary profit. He has enjoyed almost uninterrupted health during a ministry of twelve years, losing but two Sabbaths in all that time. His garden is his medicine chest and his Europe, infinitely better than blue pill and the discomforts of a sea voyage and the hospitalities of the hotel keepers of the Continent. He is well satisfied that gardening pays as well in the health of the body and of the mind as it does in the purse. He takes the papers and reads them.

HALF AN ACRE.

In another column we have given the results obtained in a clergyman's garden, consisting of one and a half acres. Here we propose to show the plan and arrangement of a mechanic's half acre. The accompanying plan is an exact drawing of the village plot of Mr. H. Smith, of South Norwalk, Connecticut. As we have before referred to this matter, it will not be new to some of our readers, but it will be so to ten thousand others. Mr. Smith is a hard-working mechanic, who labors ten hours a day in his shop, and our object in again introducing a plan of his garden, is to show to others similarly situated, that there is a great amount of real enjoyment, as well as profit, to be derived from the tillage of a limited area of ground. Mr. Smith attends to his garden almost wholly himself, out of business hours, and finds pleasure and recreation in so doing. We present this plot, not so much to recommend this particular plan, or the varieties of fruits or plants marked down, as to show what can be done. No two cultivators would follow precisely the same method, nor is it desirable that they should. There is a wide field here for the cultivation and development of taste and skill.

DESCRIPTION OF THE PLAN.

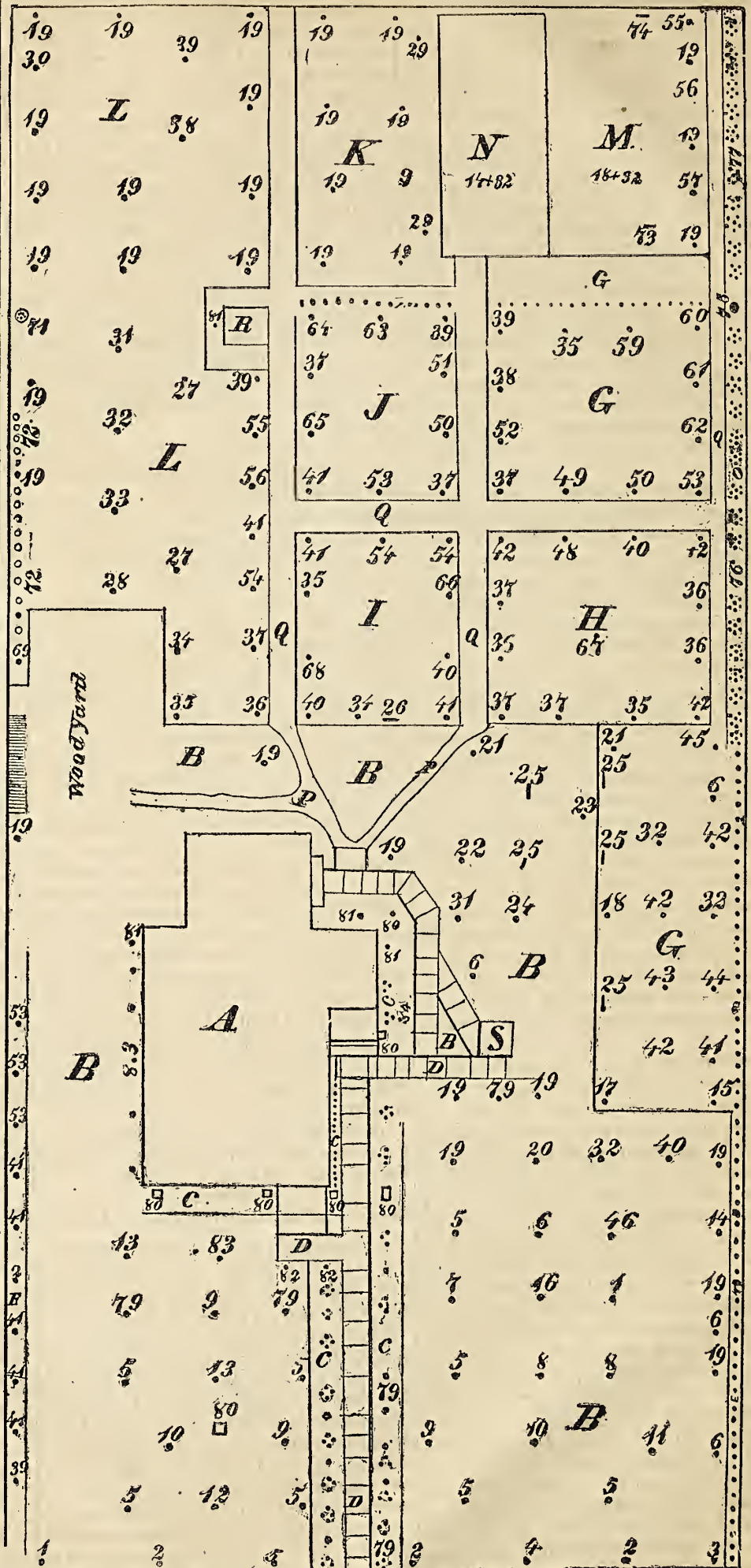
Our engraving represents a plot 96 by 205 feet, and is drawn to a scale of about 20 feet to the inch. To make the plan as plain as may be, the letters, figures, and lines are necessarily drawn too large for the best effect upon the eye. The lower part of the plot, which is the west end, fronts upon the road running north and south. Outside of the fence are four white-ash shade-trees not here indicated.

The figures refer to shade and fruit trees of different kinds and varieties.

A, the dwelling-house; B, B, B, grass-plots; C, C, C, borders for shrubbery and flowers; D, D, flag-stone walks; E (on the right), border for currants; F, (on the left), border for dwarf pears and dahlias; G, G, G, strawberry beds; H, plot for blackberries and raspberries; I, J, K, L, plots for vegetables, &c., described below; M, a vine border; N, a cold graperly; O, raspberry border next the fence; P, P, foot-paths through grass-plots; Q, Q, garden-walks; R, privy; S, well.

The three strawberry plots, G, G, G, contain eleven varieties, viz.: Hovey's S. pine; Boston pine; Burr's new seedling; McAvoy's Superior; large early Scarlet; Jenny's Seedling, Crimson Cone; Le Baron; British Queen; Princess Alice Maud; and one variety, name unknown.

The square plot, H, beside 13 dwarf pear trees and 5 white Smith gooseberry bushes, contains of raspberries 15 hills red Antwerps, 9 hills white Antwerps, and 9 hills Franconia. On the same



plot are 5 hills New-Rochelle blackberries, and 1 the north-east corner, and 4 sage roots. During the past season there have been raised on this

plot 8 dwarf pear trees from the bud; 10 hills early nutmeg potatoes; 3 hills crook-neck bush squashes; 2 hills of corn; 13 cabbages; some parsley roots, and over eight quarts of very fine strawberries. The strawberries are grown between the white and red Antwerp raspberries.

On the plot I, beside the trees indicated by the figures, and described below, there are 8 currant bushes; 8 gooseberry bushes, of a large green variety, name unknown; 1 climbing rose, near 40; 1 white fragrant peony, near 54; 1 worm-wood plant, near 41; 1 yellow rose: 1 garden Isup plant, as it is called, and 7 flower roots of various sorts. During the past season there have been raised on this plot 30 gooseberry plants, from cuttings; 29 Angers quince stocks, which are now budded with a variety of pears; 6 two year old dwarf pears, to be removed; 1 row, across the plot north and south, of early beets; 3 rows of early radishes; 2 rows of bush beans; 1 bed of early beets, which furnished more than was used by the family; 8 cabbages; 4 dahlias, and lettuce in abundance. Two crops of radishes were grown round the edge of the beet bed. Mr. S. says he generally plants radishes around the beds of beets, onions, &c., as they are soon grown and out of the way.

The plot J, beside the trees indicated, and 7 flower roots and 6 dahlias, has produced, the last season, 2 beds of onions with radishes; 2 beds of early peas; 2 rows of early nutmeg potatoes, in drills; 1 bed of late beets, for winter use, and 30 late cabbages. The ground occupied with early peas and potatoes was afterward sown with Russia turnips, which did not do well on account of the drouth.

The plot K was planted with bush beans, potatoes, and some winter squashes.

The plot L, L, beside the trees, is chiefly devoted to vegetables. There are 4 blackberry bushes, and a row of flowering plants along the walk Q, from the house to the privy, R. On the plot L, L, there have been cultivated the past season, early cucumbers, potatoes, sweet and chicken corn, bush beans, Lima beans, a bed of peas, gherkins and late cucumbers, for pickling; nasturtions, and some winter pumpkins among the corn and potatoes.

N, is a cold grapery, 14 by 32 feet, containing a cistern, a simple force-pump, and 25 grape vines, of the following 13 varieties: 8 black Hamburgs; 3 white Muscats of Alexandria; 2 royal Muscadine; 2 grizzly Frontignan; 2 Chasselas de Paris; 1 Chasselas de Fontainebleau; 1 red Chasselas; 1 black Prince; 1 black St. Peter's; 1 Zinfindal; 1 white Frontignan; 1 de Candolle; 1 golden Chasselas. Ten of these are planted in front; 10 against the back wall; 3 at one end, and 2 at the other, the pump occupying the place of one vine.

M, is a grape border, 18 by 32 feet. Around the edge of this there have been raised, the past season, melons, winter squashes, and large peppers, for pickling green. The roots of the front vines in the cold grapery spread out under the sill into the border.

O, is a raspberry border, by the side of the fence. Mr. S. says the vines should have been placed far enough from the fence to admit a walk.

EXPLANATION OF THE FIGURES.

Where there is more than one tree of the same kind and variety, the figure indicating its location is repeated. 1, horse-chestnut; 2, dog-woods; 3, elms; 4, English mountain ash; 5, cherry trees, of the following seven varieties, viz.: 1 each of Mammoth, yellow Spanish, Coe's Transparent, White-Heart, Honey-Heart, 2 black Tartarian, and a black Mazzard, to be grafted with the May Duke; 6, common red cherries; 7, dwarf May Duke Cherry; 8 dwarf apples, Fall pippins and Wagener; 9, Norway spruce; 10, balsam firs; 11, white pine; 12 fir tree; 13 Denny plums; 14, imperial gages; 15, green gages; 16, seckel standard pear; 17, standard pears, grafted with Lawrence and Beurre Clairgeau; 18, standard pears, grafted with Bartlett and early bell; 19, peaches of the following varieties: 2 each of Morris white, Snow peach, Crawford's late Melocoton, yellow Melocoton, yellow Rareripec, and Darien peach, and 1 each of Nutmeg, Magistrate, Druid Hill, Heath Cling-stone, Old Mixon Free-stone. There are 9 trees of natural fruit, and some budded ones, but names unknown; 20, Dix pear, standard; 21, apricots of 2 varieties, viz.: Moor-park and Dubois' Early

Golden; 22, plum tree, name unknown; 23, red Siberian crab apple; 24, snowball bush; 25, Isabella grape vine; 26, Catawba grape vine; 27, Coe's golden drop plums; 28, Chinese sand pear, standard; 29, apple trees of the following 3 varieties, viz.: Fall pippins, Newtown pippins, and Opus Spitzenburg; 30, quince tree. The following pear trees, from 31 to 69, are all dwarf pears: 31, Flemish Beauty; 32, Bartlett; 33, Josephine de Malines; 34, Soldat Labreur; 35, Glout Morceau; 36, Beurre Easter; 37, five varieties, names unknown; 38, Columbia; 39, Vicar of Winkfield; 40, Seckel; 41, Louise Bonne de Jersey; 42, Duchesse d'Angoulême; 43, Madeleine; 44, F-curre d'Aremberg; 45, Lawrence; 46, Catillac; 47 Bonne des Zees; 48, Swan's orange; 49, Beurre brown; 50, Passe Colmar; 51, Doyenné gris; 52, Napoleon; 53, Beurre Diel; 54, white Doyenne; 55, Beurre Clairgeau; 56, Urbaniste; 57, Doyenné Boussock; 58, Bezi d'Esperin; 59, Beurre d'Amalis; 60, Winter Nelis; 61, Beurre Langeher; 62, Brande's St. Germain; 63, Belle Lucrative; 64, Van Mons Leon le Clerc; 65, Beurre d'Anjou; 66, Golden Beurre of Bilboa; 67, Jaminette; 68, Doyenné d'hiver nouveau or d'Alengon; 69, Buffum; 70, Bartlett standard; 71, hop vine; 72, rhubarb, two varieties—one Victoria, and the other unknown; 73, Concord grape; 74, Charter Oak grape; 75, tanzey; 76, red raspberries; 77, black raspberries; 78, the dotted line crossing the upper part of G and J, Victoria, white and red Dutch currant bushes; 79, rose of Sharon; 80, climbing roses, of the following six varieties: double red Michigan, Baltimore Belle, Molican, Noisette, Solfaterre and William Jesse; 81, lilac; 82, box-wood; 83, rose bushes; 84 tea plant. The rest of the borders, C, C, C, C, contain a variety of shrubs, among which are the following: 2 flowering almonds, 3 Corchoruses, 2 snowberries, 2 sweet-scented shrubs, 1 flowering currant, 1 barberry, 1 yellow rose, 1 moss rose, 3 Burgundy roses, 3 damask roses, 1 Marquis Bocella, 1 Dubourg, 1 Mrs. Bosanquet, 1 Reine de Fontenay, 1 Agrippina, 1 Elegans, 1 Fabvier, and several others, names unknown. In the borders, also, are peonies, pinks, tulips, daffodils, primroses, lilies, gladiolas, dahlias, hollyhocks, bluebells, &c.

We have thus put down somewhat minutely the names of the various trees, shrubs, vegetables, &c, which we saw actually growing on the above plot, containing only 19,680 square feet all told, while half an acre contains 21,800 square feet. There is no appearance of confusion.

Mr. Smith stated that, in order to make the most of a small space, he sets the peach trees between others that are longer-lived, expecting to gradually remove the former, after getting three or four crops. So in planting apple trees, it is better to set them twice as thickly as they will ultimately be needed, and gradually remove the limbs from one half of them when they interfere, and finally cut them out altogether. The produce of the trees thus removed would amply repay their expense.

There are many other common garden vegetables not named above, such as carrots, parsnips, celery, spinach, &c. These, Mr. Smith remarks that he did not require for his own use, and therefore does not grow them. Just back of the lot there is a bed of asparagus, in a salt meadow, where it flourishes finely.—Ed.

GRAFTING AND BUDDING.

To the Editor of the American Agriculturist:

If the following is, in your judgment, of any value to your readers, it is at your disposal. I dispense with the use of clay and wax in grafting, and tie nothing on to protect the budding, but use plasters of cemented rags only.

I procure well worn cotton rags, and for budding tear them in strips not more than half an inch wide—for grafting, a little more than an inch wide. They may be short or long, though a regular length would be better for both purposes. The narrow strips are then wound round a short stick smoothly and loosely, care being taken that

the end of the former strip laps over the first end of the last strip added, otherwise in unrolling it would be difficult to find the ends. The roll will be like the bandages used by surgeons for broken limbs.

The composition I use is 1 lb. of resin, 1 lb. of beeswax, and 1 1/2 lb. of tallow; into which, when perfectly melted and mixed, the rolls are put, not to soak merely, but to boil until the bubbles entirely cease to rise on the surface, for then it is certain that all the air is, by the heat, excluded from the rolls, and the vacuum filled up with the cement. This plan, of course, is adopted with bandages of any width. The rolls should be taken out while hot, and when cold used as required.

From six to eight inches of the narrow strips will be enough for budding, which will, with the warmth of the hand, stick without tying; and if the rags are sufficiently tender no further care is needed, for they will not cut into the wood or bark, but tear as the tree expands.

This plan I have for years adopted in budding; and the present year for grafting apple trees, even as late as the 27th of June, which have grown finely. Of course the wider strips are used for grafting. The same will do well to bind around trees that have been wounded in any way.

HENRY C. HOWELLS.

Eagleswood, Perth Amboy, Dec. 3, 1856.

WINTERING CABBAGES.

An article on this subject was accidentally "left over" last month. It may not be too late, however, to offer a word on this subject now, which will, at least, be in time for next autumn. In warmer latitudes, cabbages may remain out all winter with advantage, as they will continue to mature and improve in quality as long as they are not entirely frozen. In colder countries, they may be kept in the cellar, but when not desired for winter use, and even then they keep better in the ground than in the cellar. Some succeed well by laying down two poles, say three or four inches apart, inverting the cabbages upon them without removing the roots, and covering the heads with a moderate coating of earth. This is a very common method. Another plan, not so common, is to dig a long trench five or six inches in depth, and transplant the cabbages into it, setting them in a single row close together. Then erect over this a rough frame by setting up crotched stakes, and laying on poles or brush with a little straw. Cover the whole with a layer of earth, and the heads will remain green and continue to fill out during the whole winter. They can be taken out fresh whenever wanted, by opening one end of the pit. Some care and watching will be required to keep out the mice. If these make their appearance, we know of no way of destroying them but by catching them in traps, and then closing up their holes. By securing the first intruders their multiplication will be stopped, and little trouble will be experienced. An air-hole should be left at each end of such trenches. These holes may be covered with pieces of old wire-cloth, or fanning-mill sieves, to shut out the free access of mice.—[Ed.]

What makes the ocean get angry, mother? Because it has been crossed so many times, my son.



Pot Roses.

ROSES IN POTS.

We present above a drawing of a specimen Rose in a pot, which our artist has executed in a masterly manner. We give this as a standard of excellence at which our amateur and professional readers should aim. The trouble at first may seem great, but the satisfaction is greater. The Rose selected for this purpose should be some free-blooming and free-growing variety, such as Hermosa, Bourbon Queen, Paul Joseph, Mrs. Bosanquet, Caroline de Sansal, Pius IXth, Agrippina, Devouiensis, Le Pactole, Safrano, &c.

We prefer keeping the plants in pots through all their stages of growth from the cutting; but this requires much care and attention. Another mode, and perhaps better one for the young amateur, is to select strong vigorous young plants from the border in the fall of the year, and put them in pots just large enough to hold them without cramping the roots too much. If any of the roots become bruised or broken, cut them off. Cut away all but two or three of the strongest shoots, and shorten these in. The soil must be rich and strong, yet not retentive of moisture. A good compost may be made of two parts of well rotted sod, one part of old manure, and one part of leaf mold. Let the pots be well drained. When the plants have been potted as above, place them in the coldest part of the greenhouse; or, better still, keep them in a frame or pit out of doors till

about the middle of February or beginning of March. The object now must be to push them into a vigorous growth. This will be accomplished by the occasional use of a solution of guano or manure water, and a shift into a large pot. This is the point where failure generally begins, especially with young amateurs. They can not make up their minds to pinch and cut; it seems to them like Vandalism; and yet, as a general thing, a fine specimen plant can not be obtained in any other way. It would consume a great deal of space to go into all the detail of pinching and cutting in; and too much detail is apt to lead to confusion. We will state generally, that two or three leading shoots must be selected to form the body of the plant. The side shoots or laterals must be cut in to give form and comeliness, and it will be necessary to cut some out entirely where they interlace each other too much. Let no buds form until you get ready for a general bloom. To produce the desired result, good judgment and taste must be exercised, which will be greatly assisted by the cut at the head of this article. Keep that before you as a model, and if you do not succeed in your first attempt, try again. Few great objects are attained in a single trial; but perseverance will in the end crown your labors with success, and your gratification will be great. If you do not succeed in producing as magnificent a specimen, you may approach more or less near to it.—Ed.

THE VERBENA.

Our "young friend George," of Westport, Connecticut, writes us for information about the *Verbena*. We shall always be glad to impart to our young friends any information we possess, and speak a word of encouragement to them. The matter that puzzles you so is only a seeming contradiction. The *Verbena* is not an annual, but a perennial; however, as it ripens its seed every year, it may be grown as an annual. The book you refer to was written many years ago, before the introduction of the splendid hybrid varieties now cultivated, and when the *Verbena* was chiefly grown from seed. You might grow a thousand plants from seed obtained at the stores, and not raise one at all comparable to the best kinds now sold under name. We therefore say, in answer to your second inquiry, grow from cuttings, and not from seed; as it is only by cuttings that choice kinds can be perpetuated. In answer to your other inquiries, we answer, buy the plants, not the cuttings. Most of our florists have them for sale, and good kinds can be bought for about \$1 50 per dozen. Some very choice varieties of recent introduction will cost more. The following is a select list: Brilliant de Vaise, Scarlet Defiance, Lord Raglan, King of Scarlets, Sarah, Admiration, Blue Defiance, Fair American, General Taylor, Henry Clay, Heroine, Jeannie Deans, Madame Lemounier, Iphigenie, Queen Victoria, Phenomenon, Salamander, Striped Eclipse, Thalia, and the list might be greatly extended. These you can buy in the Spring, and turn out of the pots into the border. In the Fall, take up rooted joints of each, or put down cuttings, which, when rooted, pot off, and keep in a warm room during the winter. We advise George, and all our readers, young and old, to grow the *Verbena*, for it is among the most charming bedding plants we have. In one respect, however, you will be disappointed; unless your olfactories are amazing sharp, you will certainly fail to discover the "exquisite fragrance" spoken of by your author. The person who can snuff "exquisite fragrance" from the *Verbena*, must be blessed with sweet olfactories. We have grown all the so-called sweet-smelling *Verbenas*, and regard such epithets as an abuse of words. We wish the *Verbena* were "exquisitely fragrant," for it only lacks this to make it probably the loveliest gem that decks either the green-house or lawn. There is a plant commonly called the "Lemon-scented *Verbena*," which is delightfully fragrant; its proper name, however, is *Aloysia Citriodora*.

Our young friend also inquires if annuals can be grown from cuttings. We have struck cuttings of Mignonette, Sweet Alyssum, Lobelia (*gracilis*), Clarkia, Ladies' Slipper, and other annuals; but it is needless to do this, since they are so readily obtained true from the seed.

Our young friend is right in supposing that a knowledge of the names of plants adds much to the interest and pleasure of their cultivation; and our advice to him and to all others is, never to buy of a man

who does not label his plants: he is a sloven, and unworthy of his profession.—[Ed.]

AMERICAN POMOLOGICAL SOCIETY—FRUITS RECOMMENDED, &c.

We have already alluded to the recent session of this Society, and have waited patiently for the official report of its proceedings; but as it may be some time yet before this is published, we present a list of the fruits adopted and recommended. There may possibly be some omissions, but we have made it as perfect as we could with the resources at hand.

PEARS.—Of *Pears on their own stock* we believe but few additions were made to the list heretofore adopted for general cultivation. After *Beurré d'Aremberg*, the words "high cultivation" were added. *Fulton* was in danger of being stricken off. The following were added: *Howell*, *Doyenné Boussock* and *Duchess of Orleans*,

The following were added to the list of those which "promise well:" *Philadelphia*, *Niles*, *Shencks*, *Richards*, *Fondante du Comice*, *Beurré Kennes*, *Emile d'Heyst*, *Counseilleur de la Cour*, *Comtesse d'Alost*, *Beurré Langlier*, *Bergomot d'Esperin*, *Doyenné d'Alençon*, *Delices d'Hardenpont*, *D'Albret*, *Delice*, *d'Hardenpont of Belgium*, *Excellentissima*, *Osband's Summer*, *Beurré Nantais* and *Dix*.

Of the "rejected list," *Bellissime d'Eté* was added to it, and *Blecker's Meadow* and *Passans du Portugal*, were taken from it.

Of *Pears on Quince stock*, *Beurré d'Aremberg* and *Triumph de Jodoigne*, were stricken from the list. The following were recommended by *Berekmans*, *Wilder*, *Hovey*, *Reid*, and others: *Brandywine*, *Beurré Superfin*, *Jalousie de Fontenay*, *Beurré Gris d'Hiver*, *Doyenné d'Alençon*, *Passé Colmar*, *Belle Epine Dumas*, *Buffum*, *Seckel*, *Tyson*, *Beurré Sterckman*, *Theodore Van Mons*, *Kirtland*.

APPLES.—The following were placed on the list for general cultivation. *Primate*, *Benoni*, *Hawley*, *Rambo*, *High-top Sweeting*, *Jonathan*. The following were placed under the head of those that "promise well:" *King*, *Caroline June*, *June Sweeting*, *Wagner*, *Smith's Cider*, *Winter Sweet Paradise*, *Fallowater*, *Broadwell*. *White Seek-no-further* was removed from the list.

PEACHES.—Of *Peaches*, *Early Crawford* and *Old Mixon Cling* were recommended for general cultivation. *Susquehannah*, *Madeleine de Courson*, *Hative de Neigs*, *Hill's Chili*, and *Gergas*, were added to the list of those promising well.

CHERRIES.—*Coe's Transparent*, *Early Purple Guigne*, *Belle d'Orleans*, *Governor Wood*, *Reine Hortense*, and *Rockport Bigarreau*, were recommended for general cultivation. *Napoleon Bigarreau* was recommended for special cultivation. *Downton* was removed from the list.

PLUMS.—*Prince's Yellow Gage* and *Lombard* were placed on the list for general cultivation. *Pond's Seedling*, *General Hand*, *Bradshaw*, *German Prune*, *Duane's Purple*, *Fellenberg*, and *White Damson*, were placed on the list promising well.

GRAPES, (native).—The following promise well: *Rebecca*, *Delaware*, *To Kalon*, *Concord*. The *Hartford Prolific* and *Northern Muscadine*, were thought unworthy of cultivation.

RASPBERRIES.—*French*, *Cope*, *American Red*, *Ohio Everbearing* and *Catawissa*, were recommended as "promising well."

BLACKBERRIES.—The *Improved High Bush* and *New Rochelle* or *Lawton*, were recommended for general cultivation.

STRAWBERRIES.—*McAvoy's Superior*, *Hooker*, *Victoria*, *Le Baron*, *Longworth's Prolific*, *Genesee* and *Scarlet Magnate*, were recommended as promising well.

We are a little surprised at the position occupied by some fruits in the above lists, but trust that the official list may show them to be in error, and we reserve our comments for another article.—[Ed.]

RHUBARB OR PIE PLANT.

It is pleasant, in this wintry season of the year, to look forward to the labors and enjoyments of another Spring. Our own thoughts have been directed, for the past hour, to the spot on which our eyes have rested, viz.: the kitchen garden, and to that corner of it which contains our beds of rhubarb. We have thought of its huge pink crowns, thrusting themselves up through the rich mold, almost before the swallow dares to appear, and looking, in their own way, as beautiful as the daintiest hyacinths of the flower garden. We have thought of its leaves rapidly expanding, larger than the palm trees foliage, putting to shame the more conservative vegetables, and furnishing the housewife with invaluable material for pies, tarts, jams, jellies and sauces, at a time when the last year's fruits have perished or become insipid, and before other fruits have come forward to take their place. And these pleasant thoughts have induced us to make a few notes on the culture and the best varieties of this plant, without which, no garden is complete.

It can be raised from seed, though the plants so obtained are not of uniform excellence. Choose a warm, dry aspect; pulverize the soil well, as early in the Spring as it can be worked, and sow in drills an inch deep and one foot apart. An occasional watering in dry weather, faithful cultivation with the hoe, keeping down all weeds, and thinning out the plants until they are six inches apart, is all the care they require for the first season. In the latter part of Summer, prepare a bed for their permanent occupation. This should be in a dry and sheltered part of the garden, for the health of the plants, and to favor their early growth in Spring. If the soil is a stiff clay, a little sand should be added, and the whole heavily manured with well-rotted dung, and spaded up at least eighteen inches deep. When the beds have become settled, remove the plants to their new quarters, setting them three feet apart in the row, and the rows four feet apart. The crowns of the plants should be set two inches below the surface, and should be covered, late in the Fall, with several inches of coarse litter. This will protect

the roots from hard frosts in the ensuing Winter, and give them a vigorous start in the Spring.

Rhubarb is propagated also by division of the roots; and this mode is preferable, where only a few plants are needed, as it is then ready for use the first year after planting. If raised from seed, it should not be cut until the third year. The roots can be divided in the Fall, or very early in the Spring. Eight or ten plants are enough for an ordinary family; the market gardener will adapt the size of his plantation to the number of his customers. A single crown, or eye, is all that is needed to form an independent plant. Care should be taken, in dividing the old stools, not to mutilate the roots. The ground should be well prepared for their reception; for, though they will manage to grow as readily as a burdock, yet, like the burdock, they have a great liking for the best soils. It is an excellent practice of some, to give each plant several shovels full of manure every Fall. The stalks may be cut for the table when the leaf is only half grown, and they may be used nearly all Summer, though it is best to give the plant a resting spell in Summer, to mature its leaves and strengthen its roots.

Rhubarb may be brought forward very early in Spring, in several ways. It is the practice of some to place an old barrel or box (with the bottom and head out) over one or more plants, early in April, and to surround the whole with fresh horse manure, a foot in depth. This stimulates the plant into growth, and the barrel shading the leaves, causes them to shoot up long and rapidly. The stalks are more tender and less acid than when grown in the open air. An amateur of our acquaintance takes up a few roots of rhubarb every Fall, and placing them in tubs of dirt, sets them into his cellar to enjoy a nap of about three months, and then brings them into a warm closet behind his fire-place. Opening the window blinds in this closet, and giving his plants a free watering, they soon begin to grow, and furnish his family with a healthful and delicious dessert, while yet the garden without is covered with snow. We have known others to bring forward rhubarb in greenhouses and other warm buildings. Others, again, set out several plants near the stable yard, and in the Fall place barrels over them, having holes in the top, and cover the whole with leaves or coarse litter. In the latter part of February, they remove the litter, and surround the barrels with warm manure, a foot in depth, and add to the same from week to week, as the leaves extend. The manure warms the roots, and gives almost a Summer atmosphere within the barrel, so that in about a month's time the barrel is full of leaves finely blanched, tender and crisp, which can be used until the other plants have come forward in the garden. The market gardener who forces his plants in this way is sure of a recompense for his trouble. In New-York market alone, many thousand dollars worth are sold every Spring. But if any one has not the time or means to pursue either of the above methods, let him set his plants in a sunny aspect, and

in the Fall cover a portion of them with six or eight inches of black peat earth or warm litter, and he will hasten their growth in Spring a week earlier than those unprotected.

As to the best sorts of rhubarb, we must say that, as a general rule, the best are those best cultivated. The *Giants* and *Mammoth's* owe a debt to the manure heap for some of their fair proportions. There is, however, a choice and these are among the best:

Tobolsk: Scarlet stalks, small, but very early.

Myatt's Victoria; Large, red stalks, with a rich, fruit-like flavor, and early.

Giant: Large, grown stalks; later than the preceding; a great favorite in England.

Mammoth: A seedling from *Giant*, stalks sometimes four feet long; highly esteemed about Philadelphia, where it originated.

Downing's Colossal: A large and very excellent variety; stalks often the size of a man's wrist.

Myatt's Linnaeus: The least acid of all, and that not an unimportant matter, considering the present price of sugar.

Cahoon's Seedling: One of the newest varieties, and on some accounts the best.

In conclusion, it may be proper to add that the *leaf* of the rhubarb contains oxalid acid, and is therefore poisonous. The *root* is an active purgative. The *leaf-stalk* only should be eaten.

ASPARAGUS.

Its History, Varieties, Method of Making Beds and Planting, After Treatment, Duration of Beds, Mode of Cutting and Cooking, &c.

No product of the vegetable garden is more highly relished than this, when a taste is acquired for it, and none is more healthful. Yet not one farmer's garden in ten, and in many parts of the country not one in a hundred, contains a single shoot of it. If grown at all, it is but a single stool to furnish wisps for the flies to light upon in the summer parlor. Asparagus as a vegetable upon the farmer's table is still an exotic very rarely found. As a wholesome dish, coming early in the season, when vegetables are much needed, we think it very desirable that it should have a place in every garden in village and country.

NATURAL HISTORY.

Asparagus Officinalis is a perennial plant, a native of the shores of Britain, where it occurs sparingly, and of the steppes in the east of Europe. It is also found in this country in an uncultivated state, and is probably a native of America. We have seen it growing wild upon the shores of Shelter Island, and upon the Connecticut shore, on the opposite side of Long Island Sound. It grows in abundance upon Mason's Island, near the mouth of the Mystic River, and is sometimes gathered in the spring for greens. It is, however, in its native state a small poor vegetable, hardly worth cooking. Its name is derived from the Greek, and signifies a young shoot before it expands. It is in this state when it is cut for the table. Its growth

is very rapid. Well established plants, after the weather has become warm, will throw up shoots six or eight inches high in two days.

VARIETIES.

There are two varieties, the red topped and the green topped, according to the books, though we have never met with but one. The young shoots assume quite a variety of colors when they make their appearance, depending somewhat upon the quality of the soil they are grown in. There are several sub varieties named from the places where they are cultivated. But these are simply the result of skill and manure. A deep rich soil, with abundant fertilizers, produces a large kind. Without these the stalks are small.

PLANTS FOR BEDDING.

It is a great saving of time to purchase from the nursery one year old plants for this purpose. But if this is not convenient, procure young seedling plants from an old bed, or sow the seed. The seed is produced in a brilliant red berry, which is three celled, and the cells are two seeded. The seeds are black, and very tenacious of life. They will live through the winter, and come up wherever they are left, as readily as a burdock, or a thistle. Myriads of young plants are found starting from an old bed every season, unless special pains are taken to remove the old tops in the fall.

If the young seedlings are used, take them up in May, when they are an inch or two high, and put them in any rich garden loam in drills fifteen inches apart, and one foot apart in the drill. Select the strongest and most perfect plants for this purpose. If well set, not one in a hundred will fail. If seed is sown prepare the bed as for other vegetables, and put the hills at the same distance apart. Sow early, as soon as spring opens. The young plants are very small when they first come up, looking like so many pins sticking in the dirt. As soon as in sight, the whole surface of the bed should be stirred with a push hoe, to cut up the springing weeds and give the asparagus a start. The young plants should be hoed once a week through the season. This course will make strong vigorous plants, with roots shooting out from the crown like the spokes from the hub of a wheel. The roots will be from ten to twenty inches in length, according to the richness of the soil. In the fall they are ready for

THE BED,

which is the main thing in the cultivation of this plant. It will grow, indeed, in almost any good soil, but it can only be had in perfection from a deep, rich bed. We would choose for it a hill side, sloping to the south or southeast,—next to this the south side of a wall, and lastly an open spot, free from shade above or roots beneath. The plant wants all the soil, and all the sunshine it can command.

Eight square rods, or a plot three rods square, will furnish even a large family a full supply of this vegetable. For so large a plot as this, we would lay the bed out eight rods long, and one rod wide; if convenient, remove all the surface soil,

and put it upon one side, to be used again. If the subsoil is a yellow loam, six inches in depth of it may also be saved. If it is clay or gravel, we would take it all out to the depth of three feet. The plant is a gross feeder, and wants three things, drainage, room to grow, and rich congenial food.

These may be secured, of course, by a variety of methods to suit the convenience of the cultivator. For drainage, we would use six or eight inches of oyster shells upon the bottom, and care must be taken that water shall never stand in the bottom of the bed. If the soil is clayey, an outlet must be dug at the lowest corner. If shells are not to be had, small stones, two or three inches through, will answer. Upon these put a layer of bones, one or two inches in thickness, and more if they can be easily and cheaply procured. Our own experiments with bones have led us to attach a high value to them as a fertilizer for this plant. If in the vicinity of the shore, where sea mud and sand can be procured, we would make a compost for the remainder of the bed, composed of one half sea mud, one fourth stable manure, and the remainder of surface soil. If remote from the shore, we would use peat or muck instead of the sea mud. The whole should be well mixed and thrown in upon the bones.

SETTING THE PLANTS.

The old method was to put them in long narrow beds, but this is not important. Stretch your line a foot from the edge of the bed, and with the shovel or spade remove about two inches of the surface on both sides of the line. Then take a plant and spread out all the roots carefully like the spokes of a wheel. Return the soil, leaving the crowns about two inches beneath the surface. Put the plants two feet apart along the line until the whole drill is finished. Stretch the line again at the distance of two feet, and set the plants as before. Eight drills will finish the bed, and the whole number of plants required will be 528. The plants are sometimes set 18 inches apart in the drill, but the shoots will not be so large. If we wanted shoots of extra size we should make the bed deeper, and put the plants three feet apart. We prefer to set the plants in the spring, when the shoots first make their appearance above ground. The roots should not be suffered to dry.

AFTER TREATMENT.

For the first two years after setting the bed, nothing will be required but the stirring of the surface soil, and a bushel or two of salt thrown over in the fall. No cutting should be made until the third spring. The fall before this, as soon as the ground is frozen hard enough to bear the cart, manure should be spread over the whole surface three or four inches deep. We would not put the manure on until the ground is frozen, because it is very important that the soil should be kept as light and spongy as possible. The manure serves as a mulch during winter, and in the spring may be carefully forked in. It is injurious to disturb the roots.

WHITE ASPARAGUS.

If this is wanted, you have only to cover

a part of the bed with sea weed or old straw six inches deep, and cut the shoots as soon as the heads make their appearance. The white stalks are very delicate to look at, but are astringent to the taste, and for our palate are worthless. Yet they are highly prized by some. The only shoots fit for the table are the long green ones, cut just below the surface, and cooked the same day they are cut. The difference between a fresh and stale article is almost as great as with peas and green corn.

CUTTING THE SHOOTS.

The whole bed should be looked over every morning, selecting the shoots that are six inches in length, and cutting them just below the surface. None should be allowed to grow until you are done with the cutting for the season. It is necessary to observe a due moderation in reaping the crop, as the shoots when much cut become progressively smaller and less valuable. Hence it is a general rule with gardeners never to gather asparagus after the peas come into bearing.

DURATION OF A BED.

Managed in this way a bed will last many years, if not for a life-time. There is a bed near us prepared over thirty years ago, and for the last twelve years, with which we have been acquainted with it, it has produced bountifully. We know of another bed, prepared with no special care, that is over forty years old. It only runs out with weeds and neglect. This should be taken into account in preparing a bed. A work that needs doing but once in a life-time, ought to be thoroughly done.

AMOUNT OF PRODUCE.

We have never accurately measured the yield of a bed for a whole season, but from our estimate, based upon our own bed, we should think eight square rods prepared as we have directed, would produce over three hundred pounds a year after the fourth season. This would give about five pounds a day for the sixty days when it is in season. At ten cents a pound, which is the common price by the season, the product of the eight square rods would be worth thirty dollars, and of an acre, six hundred dollars.

VALUE AS A VEGETABLE.

But we would not put this article merely upon a pecuniary footing. It is not only palatable and nutritious, but possesses certain medicinal qualities which make it indispensable in every intelligent and well regulated household. If we can forestall the doctor's bill by taking our medicine unconsciously at our dinners, it will be found both pleasant and profitable. The plant is diuretic, and, by its action upon the kidneys, carries off the matters prejudicial to the system. Its juice contains a peculiar crystalizable substance, which was discovered by Vanquelin and Robiquet, and named by them *Asparagine*. It is hard, brittle, colorless, and in the form of rhomboidal prisms—its taste is nauseous. This decoction of the plant is sometimes used as a diuretic. As a vegetable it is recommended by physicians to all persons afflicted with gravel and urinary diseases. It comes at a season when the system is prone to use this class of medicines from long con-

finement to salt meats and a spare vegetable diet. The free use of asparagus will often remove the causes of disease. The taste for it is easily acquired, and children are almost uniformly fond of it when it is properly cooked, and this leads us to speak of the most approved method of

COOKING ASPARAGUS.

In the first place, cut off the tough white part of the stalks, so that they shall be of equal length. Put them into small bundles, and boil them from fifteen to twenty minutes, according to their age. The addition of a quarter of a tea spoonful of saleratus to three of water, will preserve the fresh green color of the asparagus. A little salt should be put into the stew pan.

Toast slices of bread enough to cover the bottom of the vegetable dish. Then moisten the toast with a little water from the stew pan and butter it. When the asparagus is taken up and drained, it is to be laid on the toast, and the string removed. Serve with melted butter and salt to the taste.

A good bed of this vegetable is a prize in any garden, and no family, having once enjoyed this healthful luxury, will ever consent to live without it. Prepare a good bed, and you will always be able to gratify that intense longing which we all have in the spring for something fresh and green from the bosom of the earth. Farmers have all the materials for the bed upon their own premises, and the work can be done at any time when the ground is not too deeply frozen. Though bones, and sea mud, and salt are desirable, the plant will do well in rich garden soil and stable manure. We are quite sure that a little labor and capital cannot be put to a better use.

DIGGING HOLES FOR TREES.

To the Editor of the American Agriculturist:

In reading lately an old standard work, ("The American Gardener's Calendar, by B. McMahon," Philadelphia, 1806,) I found some remarks on planting trees, which differ somewhat from those usually given in horticultural works. Allow me to copy a paragraph or two:

"A wide circular hole must be dug for every tree, capacious enough to receive all the roots freely without touching the sides, *but by no means of a greater depth than the natural good soil*; for if you make a deep hole, basin like, into the *clay bottom*, or unfriendly sub-soil, which is too frequently done, and plant the roots therein; *even filling it around with good earth will not do*, for as soon as it pushes its roots beyond this, they must enter into the bad and unfriendly soil, which will not fail to bring on the decay of the most healthy tree, and can never afford it suitable juices for perfecting delicious fruit; besides, the lodgment of water about the roots in this confined basin, in wet seasons, will cause the tree to become sickly, and to get overrun with moss, and full of canker." Page 223.

And again, "Should the earth be rather shallow, so that you cannot cover the roots a sufficient depth with good soil, you must have some hauled for that purpose to where each tree is to be planted, or collected to such places from the general surface, and *bank the roots round* therewith; for there is no alternative between planting them in the good soil, where the roots can take a wide-extended horizontal direction, and lie within the reach of the genial influence of heat, rain, dew and air, and that of an untimely end, if planted too deep." Page 225.

Now these remarks strike me as sensible, and yet they seem to differ from those in Bridgeman

and the *Agriculturist* for October, in one respect, viz., the depth of the hole. You recommend the hole to be from two to three feet deep at least. McMahon says: "by no means of greater depth than the natural good soil," and that even filling in with good earth will not do.

I feel some interest in this matter, because I have been setting out some trees this fall. The trees were choice and costly, (Apple, &c.,) and I prepared the holes very carefully, as I thought. I had them dug $4\frac{1}{2}$ to 6 feet across, and $2\frac{1}{2}$ feet deep. The sub-soil is a tough tenacious clay, and the holes held water like a tub. I filled in 18 inches of good earth before I set the trees, and then set them from 1 to 3 inches deeper than when in the nursery—trees from 8 to 15 feet high, 4 to 7 years grafted. Now, if Mr. McMahon is correct, did I not spend money for naught in getting such deep holes dug? The tough red clay below could only be removed with a pick. Have I not injured the trees by providing a basin for standing water? If so, what am I to do? Drain the ground? The ground is a gentle slope, dry except in spring, as clayey grounds generally are. Will drains draw any distance on such soils? I have consulted Munn's work on draining with but little benefit as to the advantage of drains in such a soil.

Perhaps you can give some hints in your valuable paper which will be profitable to me as well as others. I do not want my trees to die, as McMahon predicts they will.

Yours truly,
J. G. WILLIAMSON
Sidney, N. J., Dec. 8, 1856.

CHAPTERS ON GRAPE CULTURE.

BY WM. CHORLTON.

[We present below the first of a series of articles on the culture of a fruit which is rapidly coming into popular use throughout the country. Mr. Chorlton has had not a little *experience* as a grape-grower, both here and in Europe, and he is pretty well known as the author of the *Grape Grower's Guide*, *Exotic Grapes*, &c. As there is little to be done with vines at this season, Mr. Chorlton has introduced some preliminary and theoretical matters, with the intention of hereafter attending from month to month to practical details of the treatment of the vines. These articles will be especially adapted to the wants of those who grow grapes on a comparatively limited scale.—Ed.]

CHAPTER I.

It is quite probable that the garden of Eden contained a grape-vine, and that Adam ate grapes equal in quality to those produced by the cultivators of the present day. We know that some four thousand years ago they were in use, for we find that "Noah began to be an husbandman, and planted a vineyard, and drank of the wine." Further on, it is recorded that the spics Moses sent into the land of Canaan returned with a bunch so large, that "they bare it between two upon a staff." We have also the evidence of trustworthy travelers, that bunches of enormous size are produced in many parts of the world, and we have indisputable authority that grapes of superior quality and size are common in many countries whose inhabitants do not receive much credit for superior skill in cultivation. Now, although we are slow to believe in the fabulous, there is sufficient margin left to show that even our best cultivators have made but little headway towards perfection, or gained much superiority over the original natural products of the

vine. True, we have so far applied skill and science as to get a fair average sample under adverse climatic influences, which is the most we can boast of. Our own "natives" are still almost in their primitive condition, notwithstanding the thousands of acres now under cultivation, and the millions of bottles of sparkling Catawba annually made from the vintages of the great West. The foreign varieties which have now been cultivated under expensive glass structures for the last two hundred years, have, it is true, with the gardener's skill been made to produce fair crops of fine fruit, but in most cases they have been an expensive luxury, when we take into account the cost of thus raising them, including the premature decay and consequent renewal of the vines. I am well aware that these assertions will be considered questionable by some, but facts stare us in the face, and as they stand the test of argument, we may record them.

The excellence of this queen of fruits has rendered it more desirable than most others, and where wealth has been abundant, no expense would deprive the possessor from enjoying this tempting delicacy, providing there was any possibility of securing it. In countries not suited to its natural requirements, the difficulties of cultivation have been surmounted by glass structures and artificial heat, and the desire to satisfy the palate and produce a rarity has so far succeeded by skill and experience, that the exotic class of grapes may be had fresh from the vines at all seasons of the year, even in an inhospitable climate. This artificial culture requires the best talent, and much experience; hence the high value which the intelligent and enthusiastic gardener places upon his knowledge and labors. Here there certainly is a great triumph, and so long as moneyed epicures desire such enjoyments, and are willing to pay for them, there will continue to be a supply. But this part of the subject is foreign to the one we commenced with, viz.: to show that we have much yet to learn before we approach perfection in the general culture of the grape, and that in consequence of our ignorance, much time and money are wasted, and still more, the vines themselves are reduced to a weak, unproductive state, if not entirely destroyed.

Observant men are usually free in expressing their opinions, and as the best cultivators have not been lacking in observation, we have had more opinion and dogma, and diversity of experience upon this topic, than on any other in the whole range of horticultural science. If with this multitude of reasonings and great variety of individual conceit, there had been an equal amount of physiological understanding, it is presumed that we should have had by this time the best and truest methods, as commonly understood, as is the growing of a cabbage.

Owing to the failures that have so often been witnessed, many persons have thought that some mysterious skill is required, and have been deterred from making the attempt, further than with the native sorts in out-door culture; while others, being aware of the expense (often worse than useless), have not attempted their cultivation. The first of these preventives is the result of ignorance, and the other is only partially needed. The grape vine, whether it be the Exotic, planted in the graperie, or the Native, grown outside, in any and all its conditions, only requires a soil suitable to its wants, and composed of materials mechanically and chemically formed, to support in a healthy condition, its periodical development and centralizing powers, and a corresponding natural or artificial climate.

To elucidate this matter more practically, let us first notice the Natives, and we shall always

find that a free, open and elevated, but sheltered situation, with a well-drained subsoil, or one where the superfluous water can pass off readily, suits them best; there is also a difference in the varieties, some being more tardy in their action and development, which will do best in a warm latitude.

Another class, whose cellular arrangement differs from the former, are more readily excited by warmth, and consequently better adapted to those northern latitudes where we find them in their native state. To successfully cultivate these latter, we must carefully examine the conditions under which they appear to succeed best, and follow nature in our cultivation.

Notwithstanding they are so generally diffused, there are some localities and soils much better adapted to them than others. A calcareous soil, containing much decomposed vegetable matter, will always be found most acceptable, but is not in all cases indispensable.

There are thousands of acres of rocky hill-sides over the country which contain a sufficiency of soil in each of the many clefts and small hollows, for a grape vine. Many of these are now covered with brushwood, of no value, and are incapable of being turned to good account in any other way. Yet here we have some of the very best sites for vineyards, which can be planted with very little expense except clearing, burning and strewing the ashes upon the same ground. In such places the roots delight to run, providing there are a few inches of soil to cover them, for they will lap around and creep under the rocks, and will draw moisture and nourishment out of the stone itself. This is one of the most natural positions for the grape vine, in which, if the most luxuriant growth be not always secured, there will be a good crop of finely flavored fruit, and an absence of some of those diseases that we have often to complain of in a more artificial state of culture. Here the branches may be allowed to ramble over the rocks and inequalities of surface; and, excepting judicious pruning, take their own way, and it needs no poet's eulogy to portray the beauty of such picturesque scenery. One of the greatest errors which is often committed, is planting the grape vine in confined and naturally damp situations, where the plant will never succeed so as to give perfect satisfaction. There may be isolated examples where the reverse seems to happen, but these are only exceptions, and it will generally be found, even here, that there are some modifying influences or peculiar accidental assistance. It may be thought from the foregoing, that we condemn entirely all locations which are not dry and elevated. Not at all—we only mean to state that such are the most natural, and certain to secure constant prosperity and freedom from disease, with highly flavored fruit, which makes the best wine. Even a low spot may be made suitable for raising good table fruit when efficient under drainage is carried out. If the water lies stagnant in the subsoil, chemical action is prevented from going on, and offensive gases do not escape, so that instead of nutriment for the roots to absorb, there is only a poisonous exhalation surrounding them. We would, in this particular, wish to be clearly understood, otherwise examples would seem to contradict our argument, as sometimes a grape vine is found more than usually luxuriant by the side of a stream, or with roots traversing a drain. No doubt many persons have noticed such instances, but it must be borne in mind that in these, decomposition of the material, in which the roots are found, is constantly going on, and fresh food continually provided. Reasoning from such extremes has nothing to do with general principles.

Nature, to our dim vision, sometimes takes very singular freaks, which, to a superficial mind, may seem to demonstrate a constant reality; but while we are possessed with sufficient practical information, which will lead to success, we should advise only a pursuit of that which is known as certain, leaving exceptions to experimenters.

[To be Continued.]

THE AGRICULTURAL PRESS ON HORSE-RACING AT FAIRS.

We are glad to see that our cotemporaries have used as great plainness of speech upon this subject as ourselves. Lieutenant-Governor Brown, of the *New England Farmer*, has an elaborate article upon the subject, lamenting the introduction of the track, and warning his readers against patronizing this innovation. He doubts whether the track has added any permanent pecuniary advantage to any society. He mentions a county society that paid \$3,000 for preparing a track, and received only \$1,400 at the Fair. In this case, too, there was nothing to be seen from the farm, but neat stock and swine.

There can be no doubt in the mind of any candid observer, that the tendency of the racing is to divert the minds of all who come to the fair from the legitimate objects of the exhibition. Plodding oxen, stupid swine, and patient lambs, will stand a poor chance even for a glance, while the nobler quadruped is showing off his speed, at the rate of 2:40 or less. The excitement and the gambling which invariably accompany these trials of speed, even under the best regulations, are as prejudicial to good morals as they are to good husbandry. Fast horses are not wanted upon the farm. Strong, kind, well broken animals, that can travel six or eight miles an hour for four or five hours upon the stretch, are much better than the nags of the race course.

Among others, the following papers have spoken against this practice: We notice the *Country Gentleman*, the *Massachusetts Ploughman*, the *Ohio Cultivator*, the *Scientific American*, the *N. Y. Times*, the *N. Y. Tribune*, *Rural New Yorker*, and the *Prairie Farmer*. This last paper, in speaking of the Wisconsin State Fair, says, that "gentlemen in that region have decided to withdraw their countenance and influence from horse races, and will exhibit no more stock nor farm products at any fair where jockeyism prevails." This, we are persuaded, is the strong feeling among the mass of our farming population.—[Ed.]

CRANBERRY CULTURE.—The only treatises on this subject which we can now call to mind, aside from short newspaper articles, are a small volume by Eastwood, recently published by C. M. Saxton & Co. (fifty cents), and a full and excellent chapter in the Annual Report of the Secretary of the Massachusetts Board of Agriculture for 1853. This chapter was reproduced entire in the first four numbers of our twelfth volume. We have none of the loose numbers, but can supply a few sets of the entire volume—bound, \$1 50; unbound, \$1 00.

Plants are offered for sale in our advertising columns.

For the American Agriculturist.

BREAD-MAKING—MY FIRST LOAVES.

BY A LADY CONTRIBUTOR.

How oft the incidents of youthful days recur to memory—called up from the silent chambers of the past by association with some current event. Just now a trivial matter brought back very vividly a brief chapter in my girlhood's experience, which I will note down with the hope that it may give a useful hint to some of my younger sisters.

One Friday evening my step-mother said to me: "Sarah, as I shall be very busy to-morrow, I would like to have you make the bread; and, as your father is anxious to know what advancement you are making in domestic affairs, you may take entire charge of raising it."

Dear me, thought I; why cannot Bridget help bake? it is only to keep me under her own eye, for I was always jealous of my step-mother's motives, but I only answered, "I will be down early in the morning and attend to it."

"But your sponge must be set to-night, Sarah."

"To-night, mother! Do you make bread over night?"

"Yes, in cool weather I do;" and smiling, she added, "perhaps you will find there are some other points about it you do not quite understand, before your father pronounces you a good bread-maker."

"Well, I suppose you will tell me, or Bridget will," I answered pettishly; for I was ashamed to acknowledge that I could not set the sponge without instruction.

"I do not think Bridget can give you much information about it, at least I have never trusted her to make bread, for she, like most of her class, seldom adheres to rules closely enough to have uniformly good bread;" and she proceeded without further asking: "Sift the flour, it will be easier to handle, and will rise quicker than if it is in lumps from the close packing in the barrel. Make a sort of nest in the centre, large enough to hold a quart, into which throw a spoonful of salt, and then fill the cavity with boiling water."

Why, mother! I exclaimed, "I spoiled a whole batch of bread by wetting it up with boiling water before you came to our home."

"Very likely,—but I only fill the cavity or nest with it; by doing so you harden the sides, so that they will not fall into the sponge until it is ready to be mixed. The heat of the water just warms the rest of the flour sufficiently to preserve the right temperature through the night. When it has cooled so that it will not scald, put in a gill and a half of yeast, for an ordinary baking, and stir in a little flour, but be careful not to disturb the sides with your spoon. Place the moulding-board over the tray, and cover it snugly with the bread cloth, as it is very necessary to keep it warm."

"Well, I declare, there are as many rules as there are in a grammar lesson," I replied in no very pleasant mood.

"And quite as important for a good result," she mildly but firmly answered.

I was irritated,—for a plan of mine for the evening was upset; but I resolved to follow her directions to the letter, so that if the bread was not good it should be her fault and not mine. I was, besides, quite anxious to please my father, who was very particular in regard to good bread.

In the morning I hastened down to the kitchen, but mother was there before me. When I lifted the cover from the bread-tray the surface appeared to be covered with beds of foam; and as I turned to ask mother if it looked right, she said: "You have thus far been very fortunate—it is ready for mixing. Now add about three pints of warm

water, with a teaspoonful of saleratus or soda, dissolved in it, work it well together, set it by the fire, a little out of the draft, and it will be ready for moulding soon after breakfast."

I did as she directed, though annoyed by her close watching; for I then thought she loved to rule—now, I know that care is necessary.

Shortly after breakfast, or about two hours after mixing the bread, I entered the kitchen and found mother beating eggs and sugar for her cake. As I lifted the cover, she pressed her finger upon the bread, it yielded quickly to the pressure, and as quickly the impression closed. "That is a sign of lightness, it will be easy to mould," she remarked; and I have often observed since, that light bread helps to mould itself, as a good bright needle seems to sew for you. I soon had it in the pans, following the rule to mould till it cleaves from hand and board. The oven was in good order,—for Bridget, like myself, was following directions. While the baking proceeded, I assisted mother with the cake; and as the last loaf, with its light brown and crispy crust, gave out its pleasant odor, I bade the kitchen good bye for the day. I was relieved from anxiety about the bread, until I saw father returning from church the next morning in company with Prof. Wilbur. Then, I was sure the bread would be discussed.

Dr. S. gave us a very interesting discourse this morning," remarked father, soon after their entrance, "upon the preparations for the Sabbath among the Israelites. His text was: 'Bake that which ye will bake to-day, and seeth that ye will seeth.'"

"Yes," replied the Professor; "I was interested in his explanations and comments upon their baking; for, you recollect, they gathered their bread already prepared."

I looked at mother, and as I caught her eye, I saw she understood my wish—that we could gather ours in that way. At the table the subject was resumed; and soon came the remark from Prof. W., "I seldom find home-made bread in the city, Mrs. S., you must be highly favored in your cook." Mother evidently wishing to evade any further remarks on my account, replied: "That she considered it a very important article of diet either in country or city, in consideration of family health." I trembled, for I saw father had caught my secret, and I knew he would not consider me blushing. "Well done, Sarah, you have won the laurel, this is excellent bread. You must send your receipt to Mrs. Smith, who says her girls spoil all the flour they touch." I left the table, for I could not "sustain the honors." I forgot, from that day, that my father's wife was my step-mother; and as she entered the sitting-room a few moments after, I kissed her as kindly as she had watched over me and my first bread-making, and the green-eyed monster, jealousy, never resumed her former place in my mind.

CONCEIT.—The improving man may start in life with a great stock of conceit, but it grows less and less as his knowledge increases.

You may gain knowledge by reading, but you must separate the wheat from the chaff by thinking.

Keep your temper in dispute. The cool hammer fashions the red hot iron.

Stockings that need darning look worse than darned stockings.

WHERE IS TIMOTHY BUNKER, ESQ.

Last month, Espire Bunker promised to furnish his "notions" direct from headquarters, if we were bound to have them, and so we neglected to send our special reporter to Hookertown. He will be up that way before next month, if Mr. Bunker don't speak for himself in season.

Books.—Notices of new Books may appear in our next.

THE GOAL REACHED, AND NOT REACHED.

Towards the close of last year, we set down two objects to be accomplished: first, to start this year, and continue through it, with just the best paper in the country; and, second, to very greatly enlarge its sphere of usefulness by advertising and other agencies. The latter point has been fully gained, and we have even exceeded our highest hopes in this respect. But a great increase of subscribers, and consequent increase of business—far beyond what he had provided for—has prevented our accomplishing much that we had proposed in the Editorial department.

We have secured the assistance of several new editorial contributors, who have not all got the harness fitted on yet—the best thinking, practical men, are not always the most ready writers. But these matters will soon be adjusted, and we shall be able to introduce a still greater variety of plain and practically useful articles, as well as of original illustrations.

SUNDRY MATTERS.

We have no disposition to implead our readers to go out of their way to promote the circulation of this journal for our sake, though we know many friends who have often done this, and we are duly thankful therefor. The Agriculturist has fully paid its own way, and we commence a new year free of all incumbrance, with a large paying list of subscribers, and a little surplus for any casualty. Our ambition is to make this paper just as valuable as possible, and we care little for the specific amount of pecuniary profit it may afford, though we have in view a certain capital farm which we hope ultimately to call our own, if the profits of our labors in our present sphere shall ultimately suffice to accomplish that end.

Those of our readers who believe their friends and neighbors will be benefitted by perusing the pages of this paper from month to month, will, we trust, use their efforts to enlist them as readers the present year, for their own good.

We find upon our books over FOUR THOUSAND Post offices where there is now but a single subscriber. Would not a new spirit of improvement be awakened in the neighborhood of all such offices, if each of these single subscribers should by a little effort increase the number of readers of the Agriculturist to half a dozen, or a dozen, or more?

The extra December edition was all exhausted by Baker's Dozen subscribers, some two weeks since. The type of this (January) number will be stereotyped, and such extra editions be struck off as may be called for.

Business Notices.

GOOD BOOKS FURNISHED.

We are continually asked about books on various subjects, where they are to be got, price, &c. The following are some good if not the best in the several departments: American Farm Book, a plain, comprehensive practical treatise on the various crops, and farm operations generally—\$1. Buist's Family Kitchen Garden—75 cts. Allen's Rural Architecture—\$1.25. Quimby's Mysteries of Bee Keeping Explained—\$1. Chorlton's Grape Grower's Guide—60 cts. Eastwood's Manual for cultivating the Cranberry—50 cts. The Stable Book—\$1. Dadd's Horse Doctor—\$1. Norton's Scientific and Practical Agriculture—60 cts. Nash's Progressive Farmer—60 cts. Stockhard's Chemical Field Lectures—\$1.

We do not solicit orders, nor make book-selling a part of our business, but when any of our readers desire any one of the above named books, or any other agricultural or horticultural work, which they can not get conveniently near at hand, they may send the price to this office, and we will see that the book or books desired are mailed to them, post-paid.—*Publisher of Agriculturist.*

EXPIRATIONS OF SUBSCRIPTIONS.

When the time paid for by any subscriber expires a printed notice is sent to that effect in the last paper forwarded. Nearly all those "whose time was up" at the close of 1856, have already renewed. The few exceptions may not have observed the printed slip in the December number. Any one receiving this number with a red mark around this paragraph, will understand that their subscription expired in December, and that notice to that effect was then forwarded to them, but no renewal has reached us.

MINNESOTA.

Particulars regarding the rising Town of NININGER and vicinity can be obtained of G. O. ROBERTSON or CALEB ADAMS, No. 135 Water-st., New-York

BACK VOLUMES AND BACK NUMBERS.

A very few complete sets of Volume XV, have been secured which may be had bound for \$175. and unbound, \$125.

Volumes XII, XIII and XIV, can be had for \$1 50 each, bound, or \$1 unbound. Postage on unbound volumes 26 cents each. Bound volumes, not available.

Volumes XII, XIII, XIV and XV, uniformly bound, will be furnished for \$6. The same unbound, \$4.

We have sundry odd numbers of Volumes, XI to XIV, These will be sent free to those wishing to complete their volumes for binding.

Of Volume XV, we have several copies of October, November, December, 1855, May, June, September, October and December, 1856, (Nos. 1, 2, 3, 8, 9, 12, 13 and 15, of volume XV) and a very few of July (No. 10.) Any one of these will be sent to subscribers post-paid, on the receipt of three 3-cent stamps.

We shall be very glad to get a few perfect copies of the issues for January, February, March, April and August, 1856. For any one of these numbers we will pay 15 cents cash.

Advertisements.

TERMS—(invariably cash before insertion):

Fifteen cents per line (of ten words) for each insertion. No advertisement taken at less than one dollar.

By the column or half column, \$17 per column for the first insertion and \$14 for each subsequent insertion.

Advertisements are estimated according to amount of space occupied.

Business Notices 25 cents a line.

Advertisements to be sure of insertion must be received at latest by the 20th of the preceding month.

We now print over 15,000 copies per month, which makes the price of advertisements only one cent a line per 1,000 of circulation.

Agricultural Headquarters. 1857.

IN OUR NEW AND COMMODIOUS Rooms, No. 140 Fulton-st., New-York, are to be found the latest Agricultural Books and Periodicals, American, English, French and German.

The number of works on Agriculture published by us is now greater than that published by any other firm in the world, and we are continually adding to our list.

All interested in Agriculture are invited to send us their names and address, that we may furnish them with our Catalogue, and from time to time such other documents as may prove interesting to them.

Books sent by mail, post-paid, on receipt of price.

C. M. SAXTON & CO.,

120n145 Agricultural Book Publishers, 140 Fulton-st., N. Y.

CRANBERRY PLANTS.

BEARING PLANTS OF THE BELL variety of Cranberry, the best for general cultivation, Prices, 30 cents per 100; \$4 per 1,000; \$15 per 5,000 plants.

UPLAND CRANBERRY.—An entire new variety from Newfoundland, smaller Berry, but more prolific, and not as acid as the common Berry, at \$1 per 100 plants.

F. TROWBRIDGE,

120-122n140 Dealer in Trees, Plants, &c., New Haven, Ct.

THE LAWTON BLACKBERRY is the

queen of all berries—of most magnificent proportions, exquisite flavor, and delicate texture.—Springfield, Mass., Republican, Sept 4, 1855. Address, WM. LAWTON, New-Rochelle, N. Y., or No. 54 Wall-st.

N. B.—Plants will be furnished at a reduced rate to societies and clubs. 120-tfa147

DIOSCOREA BATATAS—NEW CHINESE POTATO OR YAM.

THE EXPERIENCE OF ANOTHER season in the cultivation of this new esculent warrants us in confirming all we said in relation to it last year. Wherever it has fallen into the hands of judicious cultivators, and received the care necessary to its full development, the result has been entirely satisfactory in all respects; and it may confidently be re-affirmed, that of all the esculents proposed as substitutes for the diseased potato, the Dioscorea Batatas is certainly the only important one.

We can now supply small roots from four to nine inches long, carefully packed for transport, at \$8 per dozen; and small seed tubers (such as we sold last season), at \$1 per dozen, or \$7 per hundred; these latter can be sent by mail. Description and directions for culture furnished with each package. Where practicable, parties are invited to examine the roots before purchasing, as we have them constantly on view.

NEW CHINESE NORTHERN SUGAR CANE.—Seed of this celebrated and invaluable plant in packets, at 12½ cents each (prepaid by mail, 25 cents), or 75 cents a pound.

CHUFAS, or EARTH ALMONDS, \$1 per 100; JAPAN PEAS, 50 cents a quart; NEW ORANGE WATER MELON (true); CHRISTIANA MUSK MELON, KING PHILIP CORN, SWEET GERMANY TURNIP, etc., etc., with the largest and most comprehensive assortment of VEGETABLE, FLOWER and FIELD SEEDS to be found in the United States. Catalogues on application.

JAMES M. THORBURN & Co., Seedsmen. 120n141 No. 15 John-street New York.

HORTICULTURAL TOOLS—A full assortment of Hedge and Vine Shears, Pruning Knives, Hoes, Rakes, Cultivators, Trowels, Forks, Watering Engines, &c. &c.

PLOWS—A large variety of patterns, among which are the most approved Sod, Stubble, Side-hill, Double-mold, Sub-soil, Lock Coulter, Self-Sharpener, &c.

CARTS AND WAGONS—With iron and wood axles, on hand or made to order, in the best and most serviceable manner.

LITTLE GIANT and other Corn and Cob Crushers

For sale by R. L. ALLEN, 189 and 191 Water-st., New-York.

NURSERY STOCK.

THIRTY THOUSAND GRAFTED APPLE TREES—one year old.

5,000 Peach Trees
10,000 Anger's Quince.
10,000 Apple Seedlings.
The above will be sold very low for cash.
WILLIAMS & CHAPMAN, Nurserymen,
120n133 Fayetteville, Onondaga Co., N. Y.

GREEN SAND MARL OF NEW-JERSEY.

THE NEW JERSEY FERTILIZER COMPANY

is now prepared to receive orders for this important Manure. For all lands upon which ashes are beneficial, the MARL is more than a substitute. Professor Cook, in his Annual Report to the Legislature of New-Jersey, says:

"The value of these MARLS is best seen in the rich and highly cultivated district which has been improved (almost made) by their use. But it may be interesting to examine the causes of their great value in agriculture, and to compare them with other fertilizers. For example: The potash alone may be taken, at an average, as five per cent. of the whole weight of the MARL; a bushel, when dry, weighs eighty pounds; and in the proportion mentioned, would contain four pounds of potash; This is nearly as much as there is in a bushel of unbleached wood ashes."

And again: "It is probable that the great value of the MARL is to be found in the fact that it contains nearly all the substances necessary to make up the ash of our common cultivated plants."

Price delivered on board vessel at the wharves of the Company at Portland Heights, Raritan Bay, New-Jersey, seven cents per bushel.

For further particulars, see Circular, sent free of postage. Orders for other fertilizers will receive prompt attention. Address either of the undersigned.

CHAS. SEARS, President,
Riceville Post-Office, N. J.
TAPPAN TOWNSEND, Treasurer,
No. 82 Nassau-st., New-York.

GEO. W. ATWOOD, Secretary,
No. 16 Cedar-st., New-York.

NEW CANAAN NURSERIES—Three

and a half miles from the Danbury and Norwalk Railroad depot.—The subscribers are prepared to offer the largest and best assortment of Nursery stock the coming season, they have ever had, consisting of 30,000 Apple trees, three and four years from the bud or graft; 40,000 Peach trees, one year from the bud; Cherry trees, Pear trees, standard and dwarfs. Also, a general assortment of Evergreens and other ornamental trees.

N. B.—We would particularly invite the attention of persons wishing to purchase largely, to our stock of Apple and Peach trees. STEPHEN HOYT & CO.,
New Canaan, Ct., Oct., 1856. 120-122

LAWTON

BLACKBERRY PLANTS

The Subscribers announce to their friends and customers that they have now

OVER SIX ACRES

of the

GENUINE LAWTON

BLACKBERRY PLANTS

under cultivation, and in good condition.

They are therefore prepared to fill large orders the coming FALL and the following SPRING.

PRICES.

\$25	per	Hundred plants.
\$12 50	per	Fifty plants,
\$5	per	Dozen plants.
\$2 50	per	Half dozen plants.

N. B. All plants ordered of us will be TAKEN up and PACKED with the GREATEST CARE; and UNDER OUR OWN PERSONAL SUPERVISION. Of the MANY THOUSANDS

sent out by us last year we have heard very few instances of failure, notwithstanding that they have been forwarded to EVERY PART OF THE COUNTRY,

and the setting out has often been entrusted to unskillful hands. Printed directions for setting and cultivating are sent with every package.

GEORGE SEYMOUR & CO.,
South Norwalk, Conn.

NEW-ROCHELLE (LAWTON) BLACKBERRY

—Genuine Plants for sale on liberal terms by the subscriber.

Can apply for information at J. W. LESTER'S, No. 161 Water-street. SIMEON LESTER, New-Rochelle, Westchester Co., N. Y. 116-12n104

BERKSHIRE PIGS FOR SALE AT

EDWARD WAIT'S, Montgomery, Orange County, N. Y.

Three pairs about three months' old, very fine.

Two boars about six months' old, very good.

All the above is from good stock, crossed with Lewis G. Morris' stock. 120n14

WYANDOT PROLIFIC CORN,

THE GREATEST AGRICULTURAL

wonder of the age. Its discovery worth millions to the country. Yield 150 bushels to the acre, (some say 200.) Plant only one kernel in a hill, each kernel will produce from three to 12 stalks, 10 to 12 feet high, 4 to 20 ears, 8 to 14 inches long, 10 to 16 rows, of beautiful pearl white corn. Seed selected with care, warranted genuine, put in a parcel sufficient to plant an acre. Price \$1 50, delivered in New-York City. Money or P. O. stamps must accompany the order, with directions how to send. Those who order sent by mail, and remit \$4, will receive, post paid, a parcel to plant an acre; \$2, half an acre; \$1, quarter of an acre. Orders for less double the above rates. Circulars showing the result from different parts of the Union, will be sent to all who send them. Address to J. C. THOMPSON, Tompkinsville, Staten Island, N. Y. 119-123n133

PERUVIAN GUANO—At lowest market

prices, wholesale and retail—with Government weight and brand on each bag, for sale at the

AGRICULTURAL IMPLEMENT AND SEED Warehouse of R. L. ALLEN, Nos. 189 and 191 Water-st., New-York.

ALLEN'S CELEBRATED MOWING MACHINE CANNOT CLOG.

NEW-YORK AGRICULTURAL WAREHOUSE AND SEED STORE.

FARMERS AND MERCHANTS WILL

find at my Warehouse every Implement or Machine required on a PLANTATION, FARM, or GARDEN. In addition to the foregoing, I would call attention to the following among many others:

VEGETABLE CUTTERS and VEGETABLE BOILERS for cutting and boiling food for stock. BUSH HOOKS and SCYTHES, ROOT-PULLERS, POST HOLE AUGURS, OX YOKES, OX, LOG and TRACK CHAINS.

Grub Hoes, Spades, Cultivators, Seed and Grain Drills, Garden Engines, Sausage Cutters and Stuffers, Garden and Field Rollers, Mowing and Reaping Machines, Churns, Cheese Presses, Portable Blacksmith Forges, Bark Mills, Corn and Cob Crushers, Weather Vanes, Lightning Rods, Horticultural and Carpenters' Tool Chests.

Clover Hullers, Shingle Machines, Apple Parers, Hay and Manure Forks, Saw Machines, Scales, Rakes, Belting for Machinery, Cotton Gins, Gin Gear, Wire Cloth, R. L. ALLEN, 189 and 191 Water-st., New-York.

Allen's Improved Mower, and Mower and Reaper—the best in America.

A large assortment of the most approved Agricultural and Horticultural implements, of good quality and at low prices. For sale by R. L. ALLEN, 109—189 and 191 Water-st., New-York.

HORSE POWERS AND THRESHERS.

I have for sale the best and most approved made in the United States, viz:

Allen's celebrated one horse endless chain power.
Emery's Patent do do do
Allen's celebrated two do do do
Emery's patent two do do do
Trimble's one to four horse iron circular power.
Warren's do do do do
Eddy's or Tassin's superior wood and wrought iron one to six horse circular power.
Hall's or Pitt's one to eight horse iron circular power, much used in California and other Western States.

THRESHERS.
Allen's or Emery's Threshers with or without Separators.
Eddy's Iron Cylinder Threshers.
Hall's or Pitt's and other make Threshers and Cleaners combined, for two to eight horse.
R. L. ALLEN, Nos. 189 and 191 Water-st.

NO FOR THE WEST.

A DESIRABLE PLACE TO GO TO.

Attention is respectfully called to the special advantages of NININGER AND VICINITY, MINNESOTA TERRITORY.

Farmers, mechanics and others, especially those having but limited means, and who are seeking a pleasant Western home, will find in Minnesota Territory, and especially in and around the new and rising town of Nininger, one of the most desirable locations.

Nininger is beautifully situated on the west bank of the Mississippi, twenty-five miles below St. Paul, and, although only about four months old, there are already forty houses built, and about three hundred inhabitants. Improvements of all kinds will continue to be vigorously prosecuted, as lots have been sold on liberal terms, conditional that several hundred thousand dollars worth of improvements be erected within two years.

The landing is one of the finest on the river, and a steam ferry boat (which will be free) is to be on the station next Spring. There is a vast extent of easily-cultivated choice farming land all around, much of it already thickly settled. There is plenty of timber and water. The dreaded ague is a stranger in this region, and the climate is delightfully invigorating. On the town site, and in its immediate vicinity, there is excellent building stone, and clay for making bricks, and the lime made here being very superior, is already in demand at other towns on the river. Large hotels, churches and schools, an atheneum, unsurpassed saw-mills of great capacity, substantial stores and numerous dwelling-houses are to be built next Spring, and, as the principal depot of the Minnesota Emigrants Aid Society is to be at this point, where the journal in connection with it is to be established, the probability is that parties who range to commence business here will succeed.

The town lots are comparatively cheap yet, but an advance soon, as the healthiness and general advantages of the Territory are rapidly being appreciated.

For further information regarding Nininger City, apply, by letter or otherwise, to any of the undersigned.

Louis Loichot, Postmaster, Nininger, M. T.
Samuel C. Sloan, St. Paul, M. T.
Andrew Levering, St. Paul, M. T.
Hancock & Thomas, Mianepark, M. T.
Louis Faiver, Louisville, Stark County, Ohio
Charles E. Clarke, Springfield, Ohio
George B. Clitherhall, Newbern, N. C.
Thomas B. Winston, New-Orleans, La.
Ignatius Donnelly, No. 108 Walnut-st., Philadelphia.
Philip Rohr, No. 12 Powell-st., Philadelphia.
Isaac Bernheimer, No. 193 Broadway, New-York.
G. O. Robertson, No. 135 Water-st., N. Y.

N. B.—A company of upwards of one hundred persons leave Philadelphia for Nininger on the 1st of May, 1857, and would be glad of any additions to their number. 120-n142

FAIRBANKS & CO., Scale Manufacturers,
No. 189 Broadway, New-York.

NEW-YORK WEEKLY TIMES,

A LITERARY AND NEWS JOURNAL FOR THE FAMILY AND FIRESIDE.

The Cheapest Newspaper in the United States.

UPON THE TERMINATION OF THE

Presidential contest, now close at hand, the proprietors of the NEW-YORK WEEKLY TIMES intend to introduce various and extensive changes in its character, which will render it still more attractive to the great mass of the people of the United States. Its columns will then be less exclusively occupied by political news and discussions, and will be much more largely devoted to LITERATURE, GENERAL NEWS, and MISCELLANEOUS READING. It will be made emphatically and especially a

NEWSPAPER FOR THE FAMILY AND THE FIRESIDE

Containing Literary Tales, Original and Selected; Biographical Notices, Sketches of Character, Letters from Abroad, Anecdotes, and generally whatever will be most entertaining and most instructive to the great mass of Newspaper Readers.

Among the conspicuous attractions of the WEEKLY TIMES will be

AN ORIGINAL NOVEL,

By a Popular American Author, written expressly for its columns, and abounding in interest and merit. This will be published in successive numbers, commencing about the 15th of November, and will probably be completed in six months.

The WEEKLY TIMES will also contain a series of

LETTERS FROM EUROPE AND THE EAST,

By one of the ablest and most Popular writers in the United States,—embracing Notes of Incident, Adventures and Observation in Europe, Egypt, Arabia and the Holy Land, and forming one of the most interesting series of Foreign Sketches ever published in this Country.

Besides these continuous articles, prepared expressly for the New Series of the WEEKLY TIMES, it will contain, every week, a great amount of

ORIGINAL CORRESPONDENCE, DOMESTIC AND FOREIGN.

MISCELLANEOUS LITERARY ANECDOTES AND SKETCHES.

NOTES OF SCIENTIFIC DISCOVERY.

BIOGRAPHICAL AND CRITICAL NOTICES.

REVIEWS OF NEW AND VALUABLE BOOKS.

CHOICE POETRY, Original and Selected, &c., &c., &c.

In short, it is the design of its Proprietors to spare neither expense nor labor in making it the most interesting and desirable MISCELLANEOUS FAMILY NEWSPAPER in the United States.

In addition to its Literary and Miscellaneous character the WEEKLY TIMES will give, in a clear and condensed form

ALL THE NEWS OF THE DAY.

From all quarters of the world, and in all departments of activity,—embracing

AGRICULTURAL, COMMERCIAL AND FINANCIAL INTELLIGENCE.

Prepared expressly for its columns, and for the use of those in all parts of the country who wish to be kept informed upon all these topics.

THE DOINGS OF CONGRESS,

With a synopsis of all important documents, valuable speeches, and the proceedings of the several State Legislatures.

FOREIGN NEWS.

As given in the Letters of Special Correspondents, and in extracts from the Newspaper Press of England and the Continent:—and

THE MISCELLANEOUS NEWS

Of Accidents, Crimes, Disasters, Personal Movements, &c., &c. both at home and abroad.

The WEEKLY TIMES will also contain EDITORIAL ARTICLES discussing all the leading events of the day, in such a manner as shall promise to be most widely useful and instructive. In its political department the TIMES will be

WHOLLY INDEPENDENT OF ALL POLITICAL PARTIES,

Speaking freely and boldly its own Opinions,—condemning Public men and Public bodies for whatever may be wrong, and upholding and sustaining them in whatever may tend for the advancement of the public good. It will advocate equal and exact justice to all men,—the preservation of the Union upon the principles of the Constitution, and the improvement of the condition of all classes by Education, Morality and Religion. It will wage no war upon any section, nor countenance any infringement of the constitutional rights of any portion of our common country. But it will also resist all attempts to subordinate the general good to sectional ambition, or to undermine those great principles of Human Liberty which form the basis and foundation of our Republican institutions. It will moderate but firm in its tone,—seeking to convince rather than intimidate, respectful toward those who differ from it, conservative in its tendency, and devoted zealously and steadily to the elevation and advancement of the people.

The WEEKLY TIMES will be printed upon handsome paper, in clear type and in elegant style—each number containing eight pages, or forty-eight columns—presenting every week

Larger amount of choice Reading and News than can be obtained elsewhere at the same rate. It is designed to make it at once

THE BEST AND CHEAPEST FAMILY NEWSPAPER IN THE UNITED STATES.

It will be sent to subscribers by mail at the following rates:

- One Copy, one year, for..... \$2
- Five Copies, one year, for..... \$5
- Twenty-Five Copies, one year, for..... \$20

Each package must in every case be sent to one name and

address. Any Postmaster, clerk, or other person, who may send us TEN or more subscribers on the above terms, and who will receive the package for distribution among the subscribers shall receive on extra copy. Additions may at any time be made to Clubs by the party in whose name the Club stands, and on terms of first remittance.

Postage on the WEEKLY TIMES is:

- To Canada, payable in advance..... 26 cents a year.
- Within the State..... 13 cents a year.
- Within the United States..... 26 cents a year.

The NEW-YORK DAILY TIMES is a very large, first-class Daily paper, containing all the News of the day, &c., &c., which is sent to Subscribers by mail at SIX DOLLARS PER ANNUM.

The NEW-YORK SEMI-WEEKLY TIMES, published twice a week, and containing all the reading matter of the Daily, is sent to Subscribers at the rate of THREE DOLLARS per annum. Two Copies to one address for FIVE DOLLARS.

Payment in all cases is required invariably in advance; and no papers will ever be sent until the receipt of the money.

All letters inclosing money, or on business of any kind with the office, to be addressed to the Publishers,

RAYMOND, WESLEY & CO.,

No. 133 Nassau-st., New-York.

NEW-YORK, Oct. 1, 1856.

Prospectus for 1857.

THE SATURDAY EVENING POST.

Established Aug. 4th, 1821.

THE PUBLISHERS OF THIS OLD

and firmly established paper take pleasure in calling the attention of the public to their programme for the coming year. Surfeited with politics, the claims of literature will be more than ever appreciated by the reading world. We have therefore already made arrangements with the following brilliant list of writers:—

WILLIAM HOWITT, (of England,) ALICE CARY, T. S. ARTHUR, MRS. SOUTHWORTH, AUGUSTINE DUGANNE, MRS. M. A. DENISON, the author of "ZILLAH," &c.

We design commencing in the first number in January next, the following original Novels:—

TALENGETTA, OR THE SQUATTER'S HOME.

By WILLIAM HOWITT, author of "Rural Life in England," "Homes of the Poets," &c., &c.

This is a STORY OF AUSTRALIAN LIFE. Mr. Howitt having visited Australia expressly with the object of acquainting himself with the novel and romantic aspects under which nature and society present themselves in that singular region.

The following Novels will then be given, though probably not in the exact order here mentioned:—

THE STORY OF A COUNTRY GIRL.

By ALICE CARY. An original Novelet, written expressly for the Post.

THE WITHERED HEART.

An original Novelet, written expressly for the Post, by T. S. ARTHUR.

LIGHTHOUSE ISLAND.

An original Novelet by the author of "My Confession," "Zillah, or the Child Medium," &c.

THE QUAKER'S PROTEGE.

An original Novelet, by MRS. MARY A. DENISON, author of "Mark, the Sexton," "Home Pictures," &c.

THE RAID OF BURGUNDY.

A TALE OF THE SWISS CANTONS. An original Novelet, by AUGUSTINE DUGANNE, author of "The Lost of the Wilderness," &c.

We have also the promise of a short and condensed

NOVELET, by Mrs. SOUTHWORTH,

to run through about six or eight numbers of the Post.

In addition to the above list of contributions, we design continuing the usual amount of Foreign Letters, Original Sketches, Choice Selections from all sources, Agricultural Articles, General News, Humorous Anecdotes, View of the Produce and Stock Markets, the Philadelphia Retail Markets, Bank Note List, Editorials, &c., &c., our object being to give a Complete Record, as far as our limits will admit, of the Great World.

ENGRAVINGS.—In the way of Engravings, we generally present two weekly—one of an instructive, and the other of a humorous character.

The Postage on the Post to any part of the United States, paid quarterly or yearly in advance, at the office where it is received, is only 25 cents a year.

- TERMS (Cash in advance)—Single copy \$2 a year.
- 4 copies..... \$5 00 a year.
- 8 copies, (And one to the getter up of the Club,)..... 10 00 a year.
- 13 copies, (And one to the getter up of the Club,)..... 15 00 a year.
- 20 copies, (And one to the getter up of the Club,)..... 20 00 a year.

Address, always post paid,

DEACON & PETERSON,

No. 66 South Third-street, Philadelphia.

SAMPLE NUMBERS sent gratis to any one, when requested.

TO EDITORS.—Editors who give the above one insertion, or condense the material portions of it, (the notices of new contributions and our terms,) for their editorial columns, shall be entitled to an exchange by sending a worked copy of the paper containing the advertisement or notice. 119-120n129

AGRICULTURAL ENGINEERS.—The

undersigned, having long experience as Engineers, will pay attention to those branches of their profession connected with Agriculture, viz: Land Surveying and Mapping, the arrangement and construction of houses and farm buildings.—DRAINING AND IRRIGATION in all their branches. Also, the adaptation of all machinery necessary for agricultural purposes, including steam engines, wind and water mills, water rams, force pumps, &c. Materials and machinery purchased on commission. SHIPMAN & HAMMOND, 111-121n48 No. 63 Trinity Buildings. 111 Broadway, N. Y.

WILLARD BLANK, No. 14 Maiden-lane, Manufacturer of Blank Books, and Importer and Dealer in PAPER and STATIONERY of every description: Particular attention paid to orders. 119-120n123

FARM LANDS FOR SALE

THE ILLINOIS CENTRAL

RAILROAD COMPANY

IS NOW PREPARED TO SELL

ABOUT TWO MILLION OF ACRES

OF

FARMING LANDS,

IN TRACTS OF FORTY ACRES AND UPWARD,

ON LONG CREDITS AND AT LOW RATES OF INTEREST.

These lands were granted by the Government, to aid in the construction of this Railroad, and are among the richest and most fertile in the State. They extend with the road, from Chicago on the northeast, to Cairo at the south, and from thence to Galena and Dunleith, in the extreme northwestern part of the State. Most of these lands lie immediately on, and within six miles of the road, and none are more than fifteen miles distant from it; hence, ready and cheap facilities are furnished for transporting their products to any of the Eastern or Southern markets. The great increase of population by immigration, etc., and the consequent rapid growth of flourishing towns and villages, on the line of the road and throughout the State, furnishes a substantial and growing home demand for every kind of farm and garden produce.

In the Northern and Central parts of the State, prairie lands predominate, interspersed with magnificent groves of oak and other timber; in the Southern, the timber is more abundant, and exceedingly valuable.

The soil is a dark, rich mould, from one to five feet in depth, is gently rolling, and peculiarly fitted for grazing cattle and sheep or the cultivation of wheat, Indian corn, &c. The air is pure and bracing, the climate more healthy, mild and equable than that of any other part of the Union; while living streams and springs of excellent water abound.

Economy in cultivating, and great productiveness, are the well-known characteristics of Illinois lands. Trees are not required to be cut down, stumps grubbed, or stone picked off, as is generally the case in cultivating new land in the older States. The first crop of Indian corn, planted on the newly broken sod usually repays the cost of plowing and fencing.

Wheat sown on the newly-turned sod is sure to yield very large profits. A man with a plow and two yoke of oxen will break one and a half to two acres per day. Contracts can be made for breaking, ready for corn or wheat, at from \$2 to \$3 per acre. By judicious management, the land may be plowed and fenced the first, and under a high state of cultivation the second year.

Corn, grain, cattle, etc., will be forwarded at reasonable rates to Chicago, for the Eastern, and to Cairo for the Southern market.

Bituminous coal is extensively mined along the road, and supplies a cheap and desirable fuel; being furnished at many points at \$1 50 to \$4 per ton. Wood can be had at the same rates per cord. Extensive quarries have been opened in the southern part of the State, near the line of this road—or building stone of excellent quality—such as white and blue Limestone, and white and red Sandstone—which can be had for little more than the expense of transportation.

The Government lands, in the Land States, having generally been withdrawn from market, emigrants from the Eastern States and Europe can be accommodated by this Company with valuable farms, at the old prices and terms, which, in all probability, will double in value within twelve months.

When those lands are restored to market, persons who think of settling on them, or in Minnesota, should bear in mind that the lands of this Company, at the prices for which they are sold, are better investments than those in other States or Territories, more remote from market, at Government prices; for the reason that the expense of transporting the products of the latter to market will always be a heavy drawback on them, and after a few years cultivation they require manuring, which is not the case with Illinois lands.

The same remarks hold good in relation to the lands in the Territories of Kansas and Nebraska, for although vacant lands may be found nearer the water courses, the distance to market is far greater, and every hundred miles the produce of those lands are carried either in wagons or interrupted water communications, increases the expenses of transportation, which must be borne by the settlers, in the reduced price of their products; and to the extent precisely are the incomes from the farms, and of course, on their investments, annually and every year reduced.

The great fertility of the lands now offered for sale by this Company, and their consequent yield over those of the Eastern and Middle States, is much more than sufficient to pay the difference in the cost of transportation, especially in view of the facilities furnished by this road and others with which it connects, the operations of which are not interrupted by the low water of Summer, or the frost of Winter.

PRICE AND TERMS OF PAYMENT.

The price will vary from \$5 to \$25, according to location, quality, etc. Contracts for deeds may be made until further notice, stipulating the purchase money to be paid in five annual installments. The first to become due in two years from the date of contract, and the others annually thereafter. The last payment will become due at the end of the sixth year from the date of the contract, and the lands are not subject to taxation till finally paid for.

Interest will be charged of only three per cent. per annum. As a security to the performance of the contract, the first two years' interest must be paid in advance, and it must be understood that at least one-tenth of the land purchased shall yearly be brought under cultivation. Twenty per cent. from the credit price will be deducted for cash. The Company's construction bonds will be received as cash.

Ready Framed Farm Buildings, which can be set up in a few days, can be obtained from responsible persons.

They will be twelve feet by twenty feet, divided into one living and three bedrooms, and will cost, complete, set up on ground chosen anywhere along the road, \$250 in cash, exclusive of transportation. Larger buildings may be contracted for at proportionate rates. The Company will forward all the materials for such buildings over their road promptly.

It is believed that the price, long credit, and low rate of interest charged for these lands, will enable a man with a few hundred dollars in cash, and ordinary industry, to make himself independent before all the purchase money becomes due. In the mean time, the rapid settlement of the country will probably have increased their value four or five fold. When required, an experienced person will accompany applicants, to give information and aid in selecting lands.

Circulars containing numerous instances of successful farming, signed by respectable and well-known farmers living in the neighborhood of the Railroad lands throughout the State—also, the cost of fencing, price of cattle, expense of harvesting, threshing, etc., by contract—or any other information—will be cheerfully given, on application, either personally or by letter in English, French, or German, addressed to

JOHN WILSON, Land Commissioner of the Illinois Central Railroad Co., Office in Illinois Central Railroad Depot, Chicago, Ill. 119-120n123

Calendar for 1857 showing months from Jan to Dec with days of the week.

Table of prices for various agricultural products like flour, wheat, corn, etc., with columns for Nov. 28 and Dec. 27.

REVIEW OF PRICES, WEATHER, &c.

AMERICAN AGRICULTURIST OFFICE, New-York, Dec. 27, 1856.

Main text of the review discussing navigation, market conditions, and prices of breadstuffs.

Supply of Breadstuffs in New-York at the close of:

Table comparing supply of wheat flour, wheat, and corn in 1855 and 1856.

Text discussing the state of the stock of various agricultural products and market trends.

Text mentioning a comparative list of closing prices for principal agricultural products.

Text explaining the subjoined tabular statement regarding receipts of breadstuffs.

Table showing receipts of various agricultural products like flour, wheat, corn, etc.

Text providing totals for receipts in bushels for 26 and 27 days.

Text discussing the receipt of beeves and comparing it to the previous week.

Table showing receipts of beeves for four weeks, with weekly averages and prices.

Text discussing the receipts of sheep and lambs.

Table showing receipts of sheep and lambs for four weeks.

Text discussing the weather conditions, including temperature and precipitation.

POSTAGE ON THE AGRICULTURIST.

Text explaining the postage rates for the journal and how to pay for it.

Text mentioning the Post Office Department and office appointments.

Text providing information about the publisher, Orange Judd, and his address.

Table of contents listing various articles and their page numbers for January 1857.

American Agriculturist. (VOL. XVI.)

Text describing the journal as thorough-going, reliable, and practical, covering various agricultural topics.

Text stating that the matter of each number will be prepared with reference to the month it is dated.

Text mentioning a full calendar of operations for the season and that articles are given every year.

Text stating that the editors and contributors are all practical working men.

Text listing terms of subscription, including one copy one year for \$1.00.

Text providing details about postage rates to Canada and Europe.

Text explaining that subscriptions can begin on Jan 1st, July 1st, or at other dates.

Text stating that the paper is considered paid for wherever it is sent.

Text mentioning that all business and other communications should be addressed to the editor.

Text listing terms of subscription for the American Agriculturist and Weekly Times.

AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture.

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON.

ORANGE JUDD, A. M., }
EDITOR AND PROPRIETOR.

ESTABLISHED IN 1842.

{ \$1.00 PER ANNUM, IN ADVANCE.
{ SINGLE NUMBERS 10 CENTS.

VOL. XVI.—No. 2.]

NEW-YORK, FEBRUARY, 1857.

[NEW SERIES—No. 121.

Business Office at No. 191 Water-st.
For Contents, Terms, &c. see page 48.
Notes to Correspondents, page 26, 43.
For Business Notices, see page 45.
For Advertisements, see pages 46-7.

WORK FOR THE MONTH.

"Hail, land of the North! where no golden mines,
No soft perfumes, nor oils, nor myrtle bowers,
The vigorous frame and lofty heart of man
Enervate; round whose stern cerulean brows
White-winged snow, and cloud, and pearly rain
Frequent attend, with solemn majesty;
Rich queen of mists and vapors! these, thy sons
With their cool arms compress, and twist their nerves
For deeds of excellence and high renown."

How much work these winter storms make us! How much is to be done to prepare for the winter, how much to make us comfortable while the snow fills the air, and the frost bridges the streams, and penetrates every nook and corner of barn, house, and cellar! There is something stern and unwelcome in winter, and many who can see but one aspect of an evil, would like to drop this season from the calendar. But winter, with all its discomforts, leaves us largely a debtor. We could as poorly afford to spare it as any of the seasons.

It performs an important office in our physical training, by giving us a cold bracing atmosphere to invigorate our bodies, and by throwing in our way such obstacles as call into exercise all our physical energies. There is more of life and health in the frosty air than in the sultry heats of summer. This essential element of animal existence is conveyed to the system in a more condensed state than in summer, and does its work more thoroughly. Every one feels the languor of the dog-days. The whole fashionable world, to say nothing of the unfashionable, acknowledge the worth of cold as they pour forth in numberless throngs from our cities, and from the far South, seeking the cool shades of the country, and the cooler breezes of the sea, which never loses entirely the spell of winter. God's "worlds of ice," in the shape of huge mountains, with their towering pinnacles, make the ocean a reservoir of cold for the health of man. Winter has its evils as all good things have—is doubtless more favorable to some diseases than summer, yet it will be observed that our bills of mortality are not greatest at this season, and the climates where winter reigns a part of the year, are more favorable to health than regions of perpetual verdure and bloom.

But mere health and development are not the sum of physical well-being. These sin-

ews, and bones, and muscles, must have thorough training, in order to reach their perfection. Winter imposes upon man the necessity of unwearied exertion. A large part of our toil is to arm ourselves against the rigors of this season. It modifies our whole style of living. A light structure, without windows, a roof or thatch of leaves, and an inside coating of smoke, may answer well enough for a home in the tropics. But he who would have a comfortable home under our northern skies, must toil to build it, even after he has gained the means of building. The foundations must be laid deep beyond the power of frost. Provision must be made for storing the harvest, which summer has ripened. The walls and roof must be made thick and strong to withstand the storms, and to shut out the cold. And when this is done, our personal comfort demands an atmosphere of artificial heat for more than half the year. This involves a large item of expense and labor. Then the preparation of dress is different, and more costly in a cold climate. How many industrious hours are spent in guarding these bodies against the cold. Indeed it gives shape to the labors of all the year. For this, the husbandman plants in seed time—for this he gathers in his abundant harvests. Now this heavy tax which the frost lays upon human energies, is the best physical training man can have.

It is this which has given the northern nations, in all ages, their superiority over the tribes of the south. It was this that made the Goth and Vandal hordes, with little military science, victorious over Rome.

"Wide o'er the spacious regions of the North,
That see Bœtes urge his tardy wain,
A boisterous race, by frosty Taurus pierced,
Who little pleasure know, and fear no pain,
Prolific swarm. They once returned the flame
Of lost mankind in polished Slavery sunk;
Drove martial horde on horde with perfect sweep
Resistless, rushing o'er the enfeebled south,
And gave the vanquished world another form."

It is this training of winter more than all other physical causes, which gives the Anglo-Saxon race their predominance in the affairs of the world. Whatever enterprises they undertake, they accomplish with facility. Wherever they go they find less formidable difficulties to encounter than they have already surmounted at home. They are equally successful, whether they pursue the prey of the deep among the ice-bergs of the northern oceans, or within the tropics; alike victorious in war on the sultry plains of India, or in the rugged passes, and before the strongest citadels of Mexico. No race on

the globe, for well disciplined physical energy, can compare with this, which has been nursed for centuries amid the storms and snows of winter.

But the season is quite as favorable to the cultivation of our minds as it is to the discipline of our bodies. It furnishes us with an entirely new class of ideas. Man within the tropics never knows the sensation of cold, never sees snow, sleet, and ice, forming in their natural way. He is a stranger to all those changes in the natural world which frost produces. He never witnesses the simultaneous decay of the flowers and the foliage, the bare aspect of the fields and forests,—their winter drapery, and the bridging of lakes and rivers with ice. He knows nothing of the thoughts and cares which the changing seasons call forth. He is a stranger to the amusements and occupations of winter. He has no fireside—hardly a family circle. Take away from us all the ideas which this season furnishes,—its solitudes, its scenes, its occupations, its home joys,—and what a void have you made in our minds and hearts! Take away these and you rob the mind of a large share of the aliment upon which it feeds, and by which it grows.

Especially would the loss be felt in the cultivation of the taste and the imagination. External objects address the soul, and awaken its emotions. The greater the variety and beauty of nature, the more are its energies quickened. Beautiful as are the scenes of summer, those of winter are hardly less beautiful, while they are more striking and grand, and better calculated to awaken the deep emotions of the soul. The winter storm, as it howls around our dwellings, fills us with awe. The approach of this season is announced in the forest by more gorgeous scenery than the summer can boast. Behold, in the frost smitten foliage, every delicate hue that ever glowed upon the painter's canvas! And when the leaves have fallen, what more beautiful than the forest, with every limb to its frailest twig loaded with the fresh fallen snow, and glittering in the morning sunbeams; or the same forest after a freezing rain, sheeted with ice, and reflecting from its pendant jewels every hue of the prism? If shut up at home, you admire the delicate tracery of the frost upon your window, more highly wrought than the finest chasing of the artizan. If you wander forth by the frozen stream, a thousand forms of beauty greet you in the crystal coated grass along its borders. If a calm winter morning, after a snow storm, occurred but

once in our lives, it would be a vision of splendor never to fade from our memories.

"Now appear

The various labors of the silent night,
Prone from the dripping eave and dumb cascade,
Whose idle forests only seem to roar,
The pendant icicle; the frost work fair,
Where transient hues and fancied figures
Wide spouted o'er the hill, the frozen brook
A livid tract, cold gleaming on the morn;
The forest bent beneath the plummy wave,
And by the frost refined, the whiter snow
Inerusted hard, and sounding to the tread
Of early shepherd, as he pensive seeks
His pining flock."

But the snow and frost leave their impress upon the soil as well as upon the husbandman himself. There is a direct utility in these winged messengers that throng the stormy air, and in the binding frost. Snow, it is now ascertained, contains a perceptible amount of ammonia, and the proverb that "snow is the poor man's manure," may not be without some truth. Where large banks of snow accumulate under the south and east side of walls, the grass starts earliest, and shows the greatest luxuriance during the season. It may be that the ammonia of the dissolving bank has something to do with the richer growth of grass.

Then the snow forms a thick, warm blanket over the soil, preventing the escape of the heat that has accumulated during the summer. Many of the plants of the temperate regions are indebted to this covering for their lives. The hardy grasses are sometimes killed in exposed situations during winter, when there is little snow. Many of the evergreens suffer and perish in similar situations from the same cause. Wheat flourishes best only in those regions where the snow lies on steadily all winter. The greatest wheat seasons are those when the plant is best protected by snow. Every wheaten loaf, with its snowy slices, is a remembrance of the kindly influence of the snow.

Then the frosts are doing a work of disintegration in the fields, which the most perfect implements of tillage fail to perform. No harrow or rake can break down the rough clods into so fine a tilth as the subtle agency of frost. This moves every particle in the whole mass, and changes its relative position. The clayey subsoil that the best tillage last summer left in lumps will all be pulverized by the frosts of this winter. Blessings then be on these dreary snows and frosts! They are doing a good work for man, and making human labors more available for the sustenance of the race.

But let us not dream that they will do up our appropriate work. They will not, as those farmers will discover who failed to leave their heavy clay soils unplowed last fall. With every thaw look to

THE DRAINS AND WATER FURROWS.

It is a matter of great importance that these should be kept open, to carry off the water. If the drains are clogged, grass land is often flowed and injured. Surface water, especially if frozen, is ruinous to some crops and injurious to all when long continued. You will notice that the wheat and rye are most effectually winter killed where the water stood in small puddles and froze.

LOOSE BOARDS AND SHINGLES

demand your care. The wind at this sea-

son often takes liberties never dreamed of in speech. Here a board is gone from the fence, or from the barn, and there a shingle or clap-board from the house. "A stich in time saves nine," is as good a proverb for the farmer, as for his wife. Make every rent snug without delay, and keep the cattle comfortable and the provender dry.

EXAMINE THE ROOT DEPOSITS.

These are often buried or covered in large heaps, where root cellars have not been provided. They should be looked to, and kept secure against the frost. Root cellars, in extreme weather, may need an extra bank of muck or hay along the outer walls. Frozen roots for cooking or feeding animals are not the thing.

TALK WITH YOUR SONS.

You will probably find them making plans for the future as well as yourself. Are they contented with their calling? It is in your power to make farming attractive to them, and to have them go forth from you, when they must, with memories that shall make them home-sick for the old farm their lives long. To do this farming must be made to them a business of intelligence and taste, and as lucrative as other callings. The mind, as well as the muscles, must be employed, and the boy be made to feel that his interests and happiness are identified with the soil. Encourage your sons and daughters in reading books and papers connected with their calling. They will be intelligent in their business just as they read and study its details. You can make no better use of ten dollars than to invest them in journals devoted to your business. They will fertilize your acres more rapidly than guano, and make your flower beds glow with a richness and beauty to rival the garden of the citizen.

HAVE YOU BUILT A MANURE SHED?

You have often seen remarks in the papers of the superior quality of manure made under cover. Has the thought occurred to you that you might make this article as well as your neighbors? You might easily run up a cheap shed, covered with boards or slabs, on each side of the barn yard. If you had these sheds, most of the manure would be dropped under them, and all the muck deposited there would be turned to the best account. There are few cattle that will not prefer a shed to the open air, in stormy weather, even in summer. If you have not put up these sheds, now is a good time to get the timber for them.

By all means build a good substantial shed if you have the timber upon your farm. It is not a very expensive affair, when you are once about it. The wood you have for the drawing. The bill for sawing will not be very heavy. The saw-mills and shingles are not far distant. A few pounds of nails, and the carpenter for a day or two, with your own help, will complete the job. Can't you afford it? Well, dispense with the carpenter, then, and the nails, and build cheaper still. You can at least get some long poles for the ridge, and a good many shorter ones for the rafters, and make a skeleton roof. Now cover this with refuse straw or

sea-weed, thick enough to shed the rain, and you have a shed, a great deal better than none.

A friend of ours has tried the difference the past season, between manure made under cover, and that made in the open yard. He spread equal quantities on equal areas of ground, and planted with corn. That there might be no unfairness, he followed up the two plots of ground with the same cultivation. He did not have to wait until harvest to make up his mind that sheltering manure was good economy. The corn where he put in the manure made under cover was far more luxuriant to look upon, came on faster, and matured earlier, and the yield was about one-third more of good sound corn.

He has since put up two manure sheds, and we think has begun a course of improvement that will not end with sheds. They are cheap affairs, but a good beginning. They will give him twenty cords of undiluted manure, instead of the same amount of washed and leached manure, he has been accustomed to put upon his land. He has begun to use muck and to gather up the droppings in the yard every morning, and put them under cover. The manure sheds will pay good interest. Let them be put up this winter.

THE RACE-COURSE ON THE FAIR GROUNDS.

We are glad to see that that enterprising body, the Massachusetts Board of Agriculture, have adopted resolutions unanimously recommending the various Agricultural Societies of that State to take such measures as are necessary to divest these shows of all characteristics of the horse-race, and as far as possible of all immoral tendencies. They have also declared their conviction that the premiums usually offered for these races are a perversion of the funds of the State; that a mile in four minutes is a rate of speed high enough for all farm uses. Any horse driven at a faster gait, the Board think should be ruled out. This is a move in the right direction, and we presume will put a stop to this nuisance in the future shows of that State. We trust the recommendation of this Board will have due weight with the managers of Agricultural Societies in other States.

LETTERS UNANSWERED—AN EXPLANATION.

At this season, when everybody is renewing his own subscription, or sending his neighbor's, a great number of persons add to their business letters sundry items pertaining to agriculture. Letters of this character count by hundreds, if not by thousands. They are opened and examined by our business clerks, the business portion attended to, and then passed to our desk, with sundry markings, such as "friendly communication," "wants immediate attention," "to be read at convenience," &c., &c. Now it is absolutely impossible for us to even read all of these until the hurry of the business season is over.

We beg to assure our correspondents, that their letters are never neglected, though they may appear so to be. Some of them are answered privately, sooner or later. Others are ultimately passed over to one of our several associates, who reside in different parts of the country, and many of them we take into consideration, when we have time to do so. Hundreds of letters of this kind are not directly referred to, as there are often ten, twenty, or thirty on the same subject; but they very often furnish a topic for a future article. Sometimes a single article is written purposely to answer a whole hat full of letters. So, good friends, keep writing, but do not blame us if we find it impracticable, nay impossible, to devote an immediate hour or two, more or less, to the consideration of your individual letters. Their influence is not lost. No thought you can offer, be it ever so common-place, is labor wasted.

CALENDAR OF OPERATIONS.

FEBRUARY, 1857.

[We put down here a summary of various operations, many of them very common ones, it is true, but a simple catalogue like this will often suggest a piece of work that would otherwise be forgotten. The Calendar is adapted to the latitudes of 41° to 42°. A little allowance must be made for each degree of latitude—later north—earlier south. This table will be made out anew every month and adapted to the season of each year. It will also be greatly enlarged at the planting and sowing seasons.]

EXPLANATIONS.—The letters f. m. l. refer to first, middle, and last of the month.

Doubling the letters thus: ff., mm., or ll., gives emphasis to the particular period indicated.]

FARM.

This is the most leisure month for the farmer, as there are very few out-door operations to be attended to. Many things, however, can either be planned or executed about the buildings, or for the coming season, such as the care and judicious feeding of stock, putting tools in order, and arranging and laying out the work for spring. The farmer should early decide how much and what fields to plant with corn, what with potatoes and other crops, how much grain to sow, &c.

Buildings—Should be looked to, and boards or shingles, which the high winds have started, be nailed on. Ventilators are much preferable on the top of barns, where they can be closed at will, than behind the cattle stalls, where every driving storm fills the linter with snow drifts.

Cattle—Stable at night and during stormy or cold days. A warm stall and good bedding at night, are nearly equal to an extra foddering without them.

Cellars and water pipes still require extra care to guard against frost.

Corn for Seed—If not saved, as it should have been at the season of harvest, select now and put away for spring use.

Cows—Do not dry up young ones too soon, as the first year is very much an index of future ones. One or two months, according as the cow is in flesh, will be a sufficient length of time for the animal to remain dry previous to the next calf. Those about calving should have extra food, and be allowed plenty of room at night.

Fencing—Cut and draw out a good supply of cedar, chestnut, &c., now that the swamps are frozen, and prepare a sufficiency of rails and stakes for summer use.

Fodder—Provide racks for whatever is given in the yards. Cart from stack-yards and feed out in barns or sheds, rather than in the open lot, where the manure is nearly wasted and your character for humanity jeopardized, to say nothing of the loss of time.

Fowls—Keep in warm sheltered situations, and give animal food to keep up the supply of eggs. Pounded bones, lime, or oyster shells, should be given to form the shell. See article on page 11 of January Agriculturist.

Hogs—Give warm food and plenty of bedding, changing often. Have separate, well-littered apartments for sows coming in. Let the "nest" be of leaves or short litter, rather than coarse straw, in which young pigs are apt to become entangled and smothered.

Horses—Feed cut hay and carrots, and use due care in watering and blanketing to guard against colds and chills.

Manure may now be carted to those lots where it is to be used, putting it in large heaps. It should not be spread upon the land before it can be plowed under. If under cover, however, it is better to let it remain there until the last practicable moment.

Potatoes for Planting—Sort out, selecting those of medium size, and have them in readiness for use.

Seeds of all kinds should now be procured according to your wants. An exchange of grain, corn and potatoes, for those of other localities, is often beneficial.

Sheep—Pay especial attention to those which are to lamb early, giving grain or cut roots, and put in separate warm pens.

Tools—Look over and see if any repairing is necessary, or if new ones are wanted, and procure or mend them now during the leisure of this month. The same remarks apply to wagons, carts, harness, and in fact any thing needed for the successful prosecution of work during spring and summer. A small work-shop or room, and a set of common carpenters' tools are a necessary appendage to the other buildings on a farm. More time is often spent in taking an implement to the carpenter's than would be required to mend it if tools were at hand.

Wood—See that the pile at the door is cut and split, and large enough to last through the entire year. Have it packed away under cover if possible.

KITCHEN AND FRUIT GARDEN.

But little can be done in this department save preparing materials for and making hot beds, collecting manure, attending to cold frames, repairing tools, etc., as given in an alphabetical calendar below. Every thing should be done possible to forward the operations of the more busy season fast approaching. It is a very good plan to have a

design of the kitchen garden drawn on a large sheet of paper, with the walks laid out, and beds or plats marked off, for the different kinds of vegetable. By consulting a plan of this kind, one can more methodically arrange for the particular crops to be cultivated, and early decide upon even the minutiae of every portion, that no delays may be necessary in a busy season.

Some of the operations which can be done this month, are collecting bean-poles and pea-brush, which should be cut now that the cedar swamps are accessible. It is poor economy to stop and procure the poles at the time they are wanted for use.

Cold Frames—Attend to, admitting air every day when practicable. Cover with straw or mats during severe weather. Seed of cabbages, cauliflower, lettuce, and spinach may be sown in them the latter end of the month, to take the places of those which will be removed during March, in latitudes south of this.

Grape Vines—See Article elsewhere.

Hot Beds—Make during the first part of the month, if very early vegetables are wanted. Sow early cabbages, tomatoes, celery, egg-plant, and lettuce, if anxious to have them as soon as possible. We advise making hot beds the latter part of this month, or the first of next, and not planting before the middle of March.

Manure—Prepare both for hot beds and general use.

Prune—Grapes, currants, and gooseberries, if not previously done.

Seeds—Clean any which are left till now, and procure all needed, that no delays may occur in planting.

Tools—Have in order, adding new ones as needed.

Trellises—Repair, construct, and train espaliers m. to l.

ORCHARD AND NURSERY.

The ground in these being for the most part either frozen or buried under snow, in this latitude, there are but few out-door operations which can be attended to.

Root grafting of young trees can be done in-doors, putting them in boxes of sand or earth in the cellar.

Nursery stakes and labels—Prepare as directed last month, and have everything in readiness for the busy season of planting or sales, in spring.

Manures and Compost—Prepare and cart to those grounds which are to be planted.

The most important out-door operation, or that which many attach importance to, is

PRUNING.

Which may be done in the orchard during this month. For this latitude the earlier the pruning is now done the better, while further north the latter part of the month is preferable. We do not advocate this as the best season to prune orchards, but so many are in favor of winter and spring pruning, when they are comparatively at leisure, that we say to such if you prune before summer, do it now, so that the wounds may become seared over before the sap ascends in the spring. If large limbs are taken off, (which by the way should seldom be done unless when they are decayed,) use a saw rather than an ax, and remove them close to the body of the tree, paring with a knife, and coating the wound with wax, cement, or what is better, a solution of gum shellac dissolved in alcohol, making it of the consistence of paint, and using with a brush. This will protect the sap vessels from severe cold during the winter, and prevent the wood from cracking by the heat of summer, keeping it in a healthy state until the wound is healed over by the new growth. We can scarcely censure in too strong terms the practice of using an ax in young thrifty orchards, and especially on cherry trees, cutting off the limbs a foot or two from the body, that the stubs may afford a sort of ladder by which to ascend the tree.

We said it was best to avoid removing large limbs if possible. Sometimes, through the neglect of former years, it may be best to take them away, but it is far better to train a tree from the nursery, cutting out each year whatever is required to form an open, well-shaped, and well-balanced head. A good rule is, so to prune, that a pruning-knife will always do the business.

Much has been said about the proper season for pruning both in the orchard and nursery, but we think from a pretty extensive observation and practical acquaintance in this department, that summer is the best time for pruning almost anything. The tree is then in vigorous growth, and new wood immediately forms over the wound, which will itself remain sound for a long time. The particular period of pruning is not so very important, provided it is not done in the spring, as the sap, oozing out, runs down and forms a black streak, producing decay on the trunk. July is a good month for this operation, which may be continued during August and September.

S. W. Cole, speaking of summer and autumn pruning, in his "American Fruit Book," says: "Thirty-two years ago, in September, we cut a very large branch from an apple tree, on account of injury by a gale. The tree was old and has never healed over; but it is now sound, and almost as hard as horn, and the tree perfectly sound around it. A few years before and after, large limbs

were cut from the same tree in spring, and at the points where they were cut off the tree has rotted, so that a quart measure may be put into the cavities."

FLOWER GARDEN AND LAWN.

These will need no especial attention during this month. Labels and stakes can, however, be prepared for spring use, and plans of new grounds be made.

Manures—Prepare and cart upon the ground, leaving in large heaps till wanted for use.

Look to the evergreen shrubbery, and if the high winds have loosened those branches which were secured against being broken down by the accumulating snow, tie them firmly to stakes, or draw them in by passing a band or twine around the whole shrub.

GREEN HOUSE.

During the severe weather of the past month a steady heat has been indispensable in these houses, which must be continued during the "cold term," at least. But

Air should be admitted each day, if possible, taking care that the temperature is kept above the freezing point. The range should not be greater than from 35° to 60°.

Bulbous Roots in Flower—Water occasionally, and turn often, to preserve the upright form of the flower stalks.

Camellias—These are now in full bloom, and require daily ablutions from the syringe or watering pot. Tie up the flowers and wash the under side of those leaves preyed upon by red spider.

Cleaning the plants from dust, decayed leaves and insects, should be done before the more busy season of next month. Everything, in fact, should now be performed which is possible to forward every department.

Cuttings of many plants not made in Autumn, may now be put in, especially Fuchsias, Pelargoniums, Calceolarias, Verbenas, Petunias, Heliotropiums, &c.

Fumigations—Give when necessary to destroy insects. Heat—Regulate according to the collections of plants, 35° to 40°, being sufficient for some, while others require from 50° to 60°.

Ilyacinths, Narcissus, Gladiolus, and other bulbs—Examine, turning often and exposing to the light. Tie up the flower stalks, and bring a few into the parlor at short intervals, removing them as they begin to decay.

Oranges, Lemons, Oleanders, &c.—Prune as requisite, watering once or twice a week.

Pines—Give light heat, and water sparingly.

Top dress unthrifty plants, and repot those requiring more room. Thin liquid manure, given through the rose of a watering pot, is a good dressing, used with moderation.

Water—Give sparingly, although the amount may be increased as plants push into a vigorous growth.

HOT HOUSE.

The directions given last month will for the most part apply to this. Much care was requisite during the extreme cold weather, and the same precautions should still be continued, putting on the shutters at an early hour at night, during high winds and frosty nights, removing after the sun is up in the morning. Plants are now growing vigorously.

Air must be admitted each day, if possible, opening the top sashes only during the warmest part of the day, and guarding against a current.

Bulbs—Continue to bring in from the Green House, to keep up a succession, watering freely. Change the water in hand glasses, at least once a week.

Cactuses may still remain in dry situations, watering sparingly.

Cleanse every part thoroughly, removing moss, decaying leaves, weeds, and litter, sprinkling the floors before sweeping. It is essential that the leaves of plants be kept clean by repeated washing and syringing, instead of having the pores covered by dust.

Gloxinias and Gesnerias—Give larger pots as they advance in growth. Both require plenty of pot room.

Heat—Regulate as evenly as possible, and according to the wants of the various classes of plants grouped in different houses. Tropical plants will bear a temperature of 75° to 85°, while the Vinery will need only 40° to 45° during the beginning, and 50° for the latter part of the month.

Insects—Watch carefully for these, as they usually make their appearance in large numbers during the month, unless timely care is used. The red spider is first discovered upon the under side of the leaf, which, if thoroughly syringed each day, will usually be sufficient. Fumigations of tobacco, timely given, will prevent the appearance of or destroy the green fly. Do not neglect this until the insects are so well established that frequent repetitions of powerful fumes will be necessary, which are alike offensive and injurious to the plants.

Re-pot Roses, Fuchsias, and, in fact, many of the plants which were put away on the dry shelf, removing weak shoots or tubers, and give gentle watering.

Shutters—Put on during cold nights and in snow-storms. Do not allow the snow to remain on the shutters any length of time.

Syringe the whole house each day, and sprinkle the floors to maintain a humid atmosphere.

Vines—Commence forcing Grape, if, with a temperature of 40° to 45°, which may gradually be increased to 50°. See Grape article on another page.

Water—Give daily, as plants absorb more moisture during a vigorous growth, which we expect to find at this season. Evaporating pans, filled with water, should be placed in different parts of the house. Morning is the best time for a thorough watering.

MANURES—CHAPTER II.

Nothing connected with improved soil culture is more important to be understood than the best methods of saving and applying manures. We believe that ninety-nine farms out of a hundred contain an abundance of fertilizing materials, did the proprietors, or tillers, know how to husband and use them. To gather and impart information on this topic is one of the leading objects in all our labors. The present series of articles are not designed for "easy reading." While we aim at as much simplicity as possible, we expect many who peruse them will need to read slowly, carefully; in short, *study* them. We ask any one who omitted to read and understand the first article, in the January number, to now go through with it again, even twice or thrice, if necessary.* We there stated the substance of the popular chemical theory of manuring, with some objections to it.

In order to get at what we consider to be the true theory and practice of manuring, let us inquire :

HOW DO PLANTS GROW?

By *plant* we mean a tree, a stalk of grass, of corn, of any grain—in short, any thing that grows from the soil, for the process of growth is the same in all plants.

Take an apple tree for example: The seed is placed in the ground near the surface, where it receives air, moisture and warmth. Within the seed is a little germ which starts into growth. It sends forth, into the substance of the seed itself, little roots or fibres, which absorb portions of it, and carry them into the shoot still remaining within the seed. This increases in size and length, and bursting through the outer coating, it expands upward until it reaches the open air, when it puts forth a leaf. At the same time the roots increase in length, and finally reach beyond the parent seed which supplies the first food, both to the stem and roots.

The first leaf furnishes a new *feeder*. The roots may find nothing outside the seed but pure water, and yet, for some time after the original seed-food is all exhausted, the plant will continue to increase in size and weight. Let us see how this is. If we examine the leaf with a magnifying glass, we shall find its surface filled with little apertures or mouths. If we put a thin coating of varnish over these openings, the plant will cease to grow, and soon sicken and die—of starvation. The fact is, this leaf gathers food *from the air*. This is the case with all plants.

* Two typographical errors occurred in the manure article, in the first edition of our January number. At the head of the tables on page 5, the word *pounds* should be *ounces*, and on page 6, the 23d and 24th lines from the bottom of the middle column should change places, and read "theories to account for phenomena, to be set against those received for a long time as orthodox."

The air is in reality the great storehouse of food for *all* growing vegetables. As we shall presently see, the roots gather but very little actual food from the soil itself. To our vision the air appears devoid of the materials that make up the body of a tree, the bulk of a crop of grass, or straw and grain; but this is only in appearance. If we take a mass of dry wood or straw, and grind it to fine powder, and then whirl a handful of it into the air, it will speedily become invisible. The separate particles are each too small to be seen when apart from each other. When a mass of wood, or vegetable or animal matter of any kind rots, it is not lost. In the decaying process, the minute invisible particles one by one escape unobserved into the air, and float about in it, unseen, it is true, but none the less there.

The same thing takes place in burning. The wood or coal in the stove gradually disappears. When the burning is rapid, a large mass of these particles go up together in the form of visible smoke, but the smoke itself soon ceases to be visible. Did it ever occur to you, reader, to inquire where goes all the millions of tuns of fuel, wood, straw, manure, &c., that annually disappear from our sight? They can not be annihilated, else long since our whole earth would have dwindled away, for what a vast amount of matter disappears every month or year. The truth is, nothing, no particle of matter, however small, goes out of existence. All these apparently disappearing masses of coal, wood, straw, dead animal bodies, are merely undergoing a *change of form*. From a solid visible mass produced by an aggregation of infinitely small atoms, the minute particles, one by one, escape into the great storehouse, the air. We do not stop to inquire after the *chemical* change undergone by this matter. It is sufficient for our purpose to state, that the infinitely small particles are separated from each other in such a way as to be no longer visible to our sight, and that the materials of immense forests, myriads of acres of grass, grains, &c., which but last year covered the surface of the earth, are now actually floating unseen in the air above and around us.

To go back then to our little apple tree (or blade of grass, or wheat or corn) which we left just starting above the ground. The *millions* of little mouths upon the surface of each leaf are opened to the surrounding air, and constantly appropriate, or suck in the invisible particles that have been furnished to the air by the decay of previously growing plants. These minute particles, after being taken in by the leaves, *are carried down by the sap*, and deposited, one here, and another there, in the stalk, in the roots, and in the leaves themselves, and thus increase their bulk. In this way the new plant is made up out of the very materials that but recently, perhaps, constituted other plants.

And how beautiful is this process. How pleasing to contemplate even the decaying mass of rotting vegetables, to follow in the mind's eye the escaping particles as they rise up to be carried hither and thither by

the ever-moving air, until caught again by the leaves of a new plant, where they abide for a time in a new combination, and then again go through the same ceaseless round. What mixtures and associations these particles undergo in the atmosphere. Here floats an atom escaped from the perspiring human skin, side by side with another from a stove another from the putrid manure-heap, another from the carcass of a decaying animal. These, now together, now separated, now together again, are perhaps caught by a rose-tree leaf, carried into the stem, and by a wonderful combination are at last woven into the very texture of the variegated flower.

Does any reader need confirmation of the fact that plants derive their food *chiefly* from the air? He can prove it to himself. Take a box of earth, holding say five hundred pounds, weigh it carefully, and plant a single ounce of clover seed in it. Now let the seed spring up, and supply it with nothing but *pure* water. The clover-seed will grow, and crop after crop may be removed, until a thousand pounds or more of clover have been taken away. Let the earth in the box be then weighed again, and it will be found that, instead of losing, it will have increased its weight by nearly as much as the weight of the clover roots remaining in it. Whence came this thousand pounds of clover? Evidently from the air through the leaves. It is true that in any part of the air there is but a very trifling amount of invisible plant-food, but it is to be remembered that the atmosphere is ever in motion, and that the same portion never remains in contact with a plant or leaf but an instant. Each successive wave of air furnishes a new supply of food.

What is said of the box of earth may be said of the soil generally. Upon a plot of nearly all sand, and containing not a pound of vegetable matter, a stately pine tree will spring up and grow until it contains hundreds of pounds of charcoal alone, besides other organic materials. This could not have come from the soil—it must have come from the air. So upon a field, in a single season twenty tons of grass, or straw or corn-stalks, may grow and be removed, and yet the soil will contain quite as much organic or vegetable matter in itself in autumn as in spring.

We may consider it as understood and admitted, then, that the mass of vegetables comes from the air. Let us now examine the plant—the growing apple tree, the wheat, or grass, or corn-stalk, to the end that we may ascertain *how* it grows, and how we may increase its growth, for this is what we are aiming at.

To feed, it must have leaves for collecting food. But this food must be carried from the leaves to the different parts of the plant. The *sap* does this. The sap may be considered as simply water collected from the soil by the roots, which goes up through tubes on the *inside* of the stem (of the tree, grass or grain stalk), then through one set of tubes to the surface of the leaves, where it takes up the food collected from

RURAL SURROUNDINGS.

NUMBER 1.

We have a large number of subscribers—thousands in the aggregate—who live in and about the neighborhood of New-York, and other large cities, towns and villages, who are part farmers, and part something else: that is to say, they are merchants, bankers, ship-owners, mechanics, professional men, &c., by occupation, but who have farms, large or small, on which they either reside with their families, or on which they spend more or less of their time, and cultivate their land for a partial support, or for amusement, recreation, convenience, or their own good health. To this class of our subscribers we propose to have a chapter or two of familiar talk about some matters which the farmer proper, or he who lives solely by husbandry, may not consider exactly addressed to him, but which, by the way, he may as well listen to, and possibly profit thereby.

In the first place, every city or town man who turns farmer without giving up his regular business or profession, does so because he has a decided taste for the country, loves "out of doors," and likes the smell of the ground. He is, also, a man of good taste. He buys a farm in a pleasant locality, in an agreeable neighborhood. He puts it in good repair, does all things well, and provides himself with all the tools, implements, &c., which will do up his farm work in the best style. He takes our paper, of course, and perhaps another agricultural or horticultural paper or two, and keeps well "posted" in the rural economy of the day. He puts his farm under good fence to start with, has a comfortable house, or an elegant—even a splendid one, as his tastes or circumstances may admit, with good out-buildings, and all the et ceteras which belong to a good rural homestead. He has orchards of different fruits, and the smaller garden fruits, choice vegetables and flowers, and shade trees and shrubbery—every thing, in fact, of the vegetable kind which can give repose, and shade and ornament and comfort to his home. These are as they should be.

There are other things, however, equally belonging to a country home, which in a great many cases are not as they should be, and in most cases, we apprehend, more from want of a cultivated taste in animal physiology, than indisposition to make their acquaintance, if our friends would but turn their attention to them. These are, FARM ANIMALS. Next to seeing the farm properly represented in good fences and buildings, with garden, orchard trees and shrubbery about them, clean fields and good crops, there is nothing which lends them such a charm as to see them stocked with an appropriate population of birds, beasts and fishes. The latter, but comparatively few can have, but of those who can, scarce one in a hundred avails himself of the opportunity, and as that is rather a *specialty* in our animal calendar, we will postpone its discussion to the last.

Now, we lay it down as an axiom, that if any thing of the animal kind is worth keep-

ing at all, a good one is better than a poor one. It costs no more to keep the good thing than the poor, and usually not so much. The good thing may cost more at first, but in the long run, it is the cheapest; and between the pleasure of tending and looking at it, the one gives us positive pleasure and delight, while the other is tolerated only for its necessity to our use or convenience. One is our companion, in whose society we take a pleasure; the other is a drudge, which we endure as we do a poor servant, and get it out of our sight and memory as soon as possible. Having said thus much by way of preface—for it is an important subject, dear reader—we shall come to the marrow of the discussion all the better for a due deliberation over the premises. First and foremost, then, for we will take them in the order of their indispensable use, is

THE HORSE.

This is a creature about which everybody knows, or thinks he knows so much—or if he does not, is sure to have a particular friend who does—that we shall not go much into particulars, and will talk in general. And first, we will say: ascertain just what you want your horse or horses for, and then get such as will answer your purpose as near as may be. Remember always, first and last, that horses are the most uncertain, contingent property you can have, and on their selection first, and treatment afterward, will depend very much of the happiness of yourself and family, as well as the balance sheet on the right or wrong side of your ledger. We know some men whose horse bills amount to thousands of dollars a year, and never have a satisfactory one to ride or to drive. They either get cheated, or cheat themselves in the purchase; or, if neither, their animals become bad by improper treatment in feeding, driving, or otherwise, and the horse department is a perpetual vexation and nuisance. This should not be so, and with discretion and judgment, the horses need be no more trouble in their management than the pigs or chickens. If you want a good steady horse tem for farm work, and that is to be their main occupation, get good stout, substantial work-horses, fifteen and a half to sixteen hands high, heavy-bodied, strong-limbed, good walkers, true in draught, and free from tricks; that will work single or double, in hills, or on the tongue; at plow, harrow, wagon or cart; stand without hitching, and of no particular ambition beyond honest labor, and a good appetite for their food. These are your work-horses.

If you do not need a pair of these, and have enough farm work for one horse, get that one, and let him be large enough to do light plowing and harrowing alone—to draw a horse cart, or single wagon with your farm crops in it—a steady, serviceable beast. If you have only occasional farm work to be done by horses, you may adopt the "horse of all work"—that is, a good steady pair of carriage horses, that will go their six or eight miles an hour on the road, fifteen and a half to sixteen hands high, gentle, honest, and sound in their work, worth say-

the air, and back through other tubes, and down through the *outside* of the stalk to the earth again. In its course it deposits the particles brought from the leaves, a little here, and a little there. We say it goes *down* through the *outside* or bark of the stem. It will be remembered that all plants increase their bulk by additions to the outside portion. The rings on the trunk of a tree show the annual additions to the bulk. The same thing takes place on the outside of a wheat or grass stem; there is not a succession of visible rings, as there is but one season's growth. [This circulation of sap in plants is similar to the circulation of the blood in the body, from the heart through the (inner) arteries to the surface of the skin, and back through the (outer) veins to the heart again. The blood in the arteries, however, gets the food, not from the surface, but in its outward passage it takes it from a tube coming up from the intestines, where it has been collected from the digested food passing through them.]

From the above, it will be seen that in order to the rapid growth of a plant, there must be a *free and full circulation of sap*, to gather the food from the leaves, and carry it to the required points. But to supply sap in due quantity, there must be a sufficiency of vigorous healthy *roots*, growing in appropriate soil, which contains at all times the right kind of fluid or sap. Here lies the whole power of the cultivator. Over the air he has little or no power. It is vain to talk of tempering or modifying the atmosphere, or of adding to the usual quantity of food contained in it, except on a limited scale for experiment alone.

The whole scheme of cultivation consists in preparing a right kind of soil for the roots to grow in, and in supplying them with such stimulants or food as may be found to conduce to their health or increased vigor, and in seeing that there is always present a due supply of appropriate moisture for sap.

Our subject must here be divided into two distinct series of articles.

1st. MECHANICAL PREPARATION OF THE SOIL, which includes the various processes of *pulverizing*, such as plowing, harrowing, &c., to fit it as a medium for the growth of plants, including, also, the discussion of Draining.

2nd. MANURING, or feeding the roots of plants, which will embrace a discussion of the *kinds* of manures adapted to the wants of the plants; also the practical preparation, husbanding and application of manures.

The first division will be taken up in our next, in a separate series of articles.

These chapters will continue with the second question, ON MANURES.

"What's the Matter, Uncle Jerry?" said Mr. M—, as old Jeremiah K., was passing by, growling most ferociously. "Matter!" said the old man; "I've been luggin' water all the mornin' for Dr. C.'s wife to wash with, and what d'ye s'pose I got for it?" "About ninepence." "Ninepence! She told me the doctor would pull a tooth for me some time!"

three to five hundred dollars the span. These, if worked at the plow, harrow, and on loads, cannot well be very stylish *coach* horses, for several reasons: when at heavy and slow draught, they should never have the check rein drawn tight; their heads should be at ease, to drop low, even, if they choose; for a horse instantly checked can not draw heavily with ease; their heavy draught also gives them a slow, plodding gait, and put into a carriage, their style of movement will be less elastic than that of horses used only for light draughts and quick action. Still, horses of this description will answer all fair family purposes where more expensive ones cannot be afforded, or are not needed.

In the country, the females of the family often want to drive out by themselves, in the absence of the male members of it. They are about their business while the "wimmen folks" want to take their pleasure and recreation. Let them by all means have a trusty, honest "family" horse—one that the young ladies can catch, and harness and drive, for we hold that no young lady is fit to live in a country home, who cannot, on occasion, harness a horse, and even groom one, if necessary. Mrs. Gen. Washington, and thousands of other women of equal rank and family, in old times, and even now, if it were fashionable to confess it, could, and did, and can, and do so now; and they are none the less elegant and accomplished women either. They don't do it in *Broadway*, nor in *the Fifth Avenue*, we admit; but they can, and do it, on occasion, in the country. Our own main family horse is now near twenty years old. He was born in the paddock near our present dwelling, and boasts as aristocratic blood on the sides of both sire and dam as any other; and no horse ever possessed a finer, nobler spirit than he. He is nearly the age of our son and heir, who has groomed him thousands of times, and driven him thousands of miles, and the best groom, and the best driver, the horse ever had; but grooming horses and driving them is not his business. One daughter, too, some years younger than the horse, has caught and saddled and bridled him, and rode on his back many and many a time, and has groomed him, and harnessed and driven him many and many a bout, and it never hurt her, either in looks, conduct, constitution or complexion; but she is all the better for it, in knowing whether the same service is properly done by others.

All this, however, by way of episode. Such should be the family horse—the *indispensible* in that line. As to the horses of luxury—the fifty-four-forty's, or—not fight, exactly, but much more apt to run away, we have little to say. Be they for coach or buggy, or sulky, we turn them over to the horse-dealers—a very honest, reliable class of men, by the way, as every body knows who has had occasion to trade with them. We, however, have usually been enabled to dispense with their services, preferring, when we wanted a good horse, or a pair of them, to go to a substantial farmer, or send a trusty man, and, if fortunate enough to find

the things we wanted, to get them directly from first hands, and before they had been spoiled by the jockeys.

There is yet another almost indispensable thing in the horse line, if there be children at home; and that is—the pony. The pony is *the* institution of the rural household among the children. What is the house, the farm, the garden, the—everything, in fact, without the pony? We have had two or three of the pestilent little ruffians in our child-rearing experiences, and know all about them—the most pestilent—the most troublesome—the most useful—the most petted—the most wayward—the most good-for-nothing, and still the most indispensable of all domestic appendages. The most knowing—the most mischievous—the gentlest—the wickedest—the best companions to children of all others. Yes; get a pony by all means—and the Shetland at that, if possible. Have a paddock for him outside, and a stall for him in the stable, for if in a field with the other horses, he'll bite and kick them till they avoid him as they would a donkey. And have a little cart, and a wagon for him, for he will do a score of little odd jobs when the horses are out of the way, or busy at other things. He will carry all the children that can climb on to his back at a time, and draw them all in the pony wagon, with cat and dog thrown in, and the wilder and raggeder the little rascal looks, the more attached are the children to him, and think him a perfect beauty. Hours and hours, day by day, are the children amused and delighted with the pony. He keeps them at home, out of the streets, out of mischief, out of idle companionship from beyond your own premises, a pastime to their town cousins and friends who come to visit them—a panacea, in short, for hundreds of ills that child-flesh is heir to. By all means get the pony.

HARD COAL ASHES AND CINDERS.

Anthracite coal is becoming so large an article of fuel in all our cities and villages along the seaboard, as well as in the Middle and Western States, that the ashes and cinders accumulate in large quantities. Most people, who study economy at all, have learned the value of the cinders, and, after carefully sifting the ashes and throwing out the clinkers, apply them to the top of the fresh lighted fire in the grate, the stove, or the furnace, to temper the heat. In this way, a more steady fire is secured, and all the coal is burned out. Housekeepers, who have not purchased a coal sieve, frequently throw away from fifteen to twenty per cent. of their fuel.

The ashes as a rule are thrown into the street, to freeze in with the snow and rain, and to form little hillocks in front of the houses. These are interesting objects to all travelers who love smooth roads. Some call them a nuisance, and, we think, the name becomes the article. The ashes take the wrong direction. They should go into the back yard, instead of the street, or should be kept in the cellar, dry, until spring, when

they will answer a variety of useful purposes.

There is almost always some wood ashes mixed with them, from the charcoal and shavings used in kindling. This contains potash and other valuable matters. The ash of the mineral coal contains gypsum, lime, phosphoric acid, and some other fertilizers. But the great bulk is made up of silica. The valuable properties are indeed small in quantity, but are worth saving. Almost every family in our villages using hard coal has a garden where they might be applied to good advantage.

We have been accustomed to dig away the earth around the collar of our peach trees, and apply them at the rate of a bushel or two to a tree. They help keep away the peach worm, and furnish some nourishment to the tree. Others apply them with good effect to all fruit trees and shrubs.

They afford some protection to the changes of the weather. It is admitted that frost itself rarely hurts trees, but it is the sudden thawing and freezing that does the mischief. If a large pile of ashes, five or six inches in thickness, and three or four feet in diameter, is put around the collar of a tree, and regularly sloped off, it soon settles and freezes, and sheds rain from the trunk. If put on during the winter, at intervals, the frozen mass increases, and of course does not thaw out as soon in the spring as the surrounding earth. The budding and blossoming of the tree is retarded by this process, and the young fruit is less likely to be injured by the late frosts. This management is particularly valuable to peach trees, which blossom so early. Some of our best cultivators put large piles of sea weed upon the frozen earth, in February, for this purpose. They save the crops by this course.

An apple tree in the garden of a friend, hitherto unproductive, bore an abundant crop last year. His coal ashes were all sifted by mistake around the base of this one tree. Other causes may have had something to do with it, but we think the lime and potash from two or three tons of coal ashes furnished the aliment the tree lacked, and threw it into bearing.

One of our neighbors has for a long course of years applied all his ashes to a part of his garden used as a potato patch. Through the worst years of the rot, his potatoes yielded abundantly, and were not affected with the disease. The variety was the Mercer, which is more liable to rot than almost any other. He attributed his success to the liberal use of coal ashes. The soil was a heavy loam, and the ashes helped it mechanically—making it more loose and pliable—as well as furnished valuable fertilizers.

We have applied the article to the lowest parts of our garden, and to reclaimed swamp land. It is a good dressing for all muck lands, furnishing large supplies of silica, which such soils need.

It is manifest from these statements, that ashes are altogether too valuable for road making, or for filling up docks. Let those who have gardens apply them to the trees

and shrubs, and to the vegetable border. Where there is no garden, let them be saved for those who have a use for them. Farmers who live within a mile or two of a village, when they come to market with their teams, should carry back coal ashes rather than go home empty. They are to be had for the asking, in most villages, and they will pay well for carting.

If it be asked what a farmer can afford to pay for these ashes, it will be seen from the analysis that they can never have much market value. Nine-tenths of the bulk is worthless. We give the analyses of the late Professor Norton. The ashes were obtained from coal burned in a grate, in the usual way, in which no charcoal ashes were mingled. The constituents of one hundred parts of the ashes of white and red coal yielded of:

	White Ash.	Red Ash.
Matter insoluble in acids.....	88.68	85.65
Soluble Silica.....	0.09	1.24
Alumina.....	3.36	4.24
Iron.....	4.03	5.83
Lime.....	2.11	0.16
Magnesia.....	0.19	2.01
Soda.....	0.22	0.16
Potash.....	0.15	0.11
Phosphoric Acid.....	0.20	0.27
Sulphuric Acid.....	0.86	0.43
Chlorine.....	0.09	0.01
Total.....	99.98	100.11

The potash in a ton of white coal ashes would be only about three pounds, which, if it were separate from the ashes, would only be worth about fifteen or eighteen cents. The sulphuric acid would be about seventeen pounds, worth, in the carboy, about fifty cents. A farmer cannot afford to pay much for them, as the valuable properties are mixed with too much that is worthless.

LESSONS IN LIFE—NO. I.

For the American Agriculturist.

BY A GLEANER.

Our school days are not confined to the precincts of the district school, the academy and the college. We are all our life learners, although some far outstrip others in acquiring "tact" in the management of their affairs, or, in other words, *act in applying* the lessons which observation and experience teach. My object in penning this article is, not to furnish a literary production for your readers to peruse and forget, but to ask them candidly to reflect on my proposition, namely, that as a class, the farmers in this country still read too little, or at least furnish too little reading matter for their growing and grown up children. I truly believe that many husbands who now sit in sullen silence of a whole evening, or more likely congregate in the village store to hear the news, would be truer and happier men if they expended from two to five dollars in weekly papers, with one or two of the best monthlies devoted to their employment. Why, there is hardly a paper worth the title but will repay the subscriber outright in valuable hints, to say nothing of the pleasure derived from the perusal of the endless variety which publishers give for a single dollar. Once more, I believe that hundreds of young men who now spend every dollar they can "pump out of the old man," as they term it, in novels, cigars, ball tickets, &c., and as many more of the class entitled "Young America," who spend their evenings, their careful mammas know not where, might all

be induced to stay at "home," if "home" was made attractive, which it will not be apt to be if the reading matter is confined to the "Bible and the Almanac," and perhaps one or two *important announcements* of Dr. Grindle's, (he has sent me *three*.) which are very *cheap*, and consequently *very interesting*. Reader, are these things so? If so, then profit by the lesson.

SENDING POULTRY TO MARKET.

To the Editor of the American Agriculturist.

I have just received a box of turkeys with a letter accompanying it, saying "we hope you will get the highest market price, as they are very nice." In weighing the turkeys, I find they average four and a half pounds. Their frames are very good, built after the style of the best modern clipper ships, but very deficient in their finish. They look as if they had never seen any grain but once, and then just before being killed. For a further description, I would refer you to the 19th verse of the 41st chapter of Genesis.

I suppose the object had in view in filling their craws to the utmost capacity, was to inform me they were *corn fed*. Had these turkeys been well fattened, nicely dressed, and not fed for at least 12 hours before being killed, they would have brought 16 cents instead of 6 cents per pound.

Fowls should not be fed for 12 to 20 hours before they are killed. If their craws are full when killed, the grain soon becomes putrid, and spoils the poultry. The object in view in writing this, is to induce people not to send poultry to market in a poor condition; if they do, they must not be disappointed if they get less than one half the market price. If well fattened they will bring a good price.

COMMISSION MERCHANT.

New York, Jan. 8, 1857.

UPLAND CRANBERRIES.

To the Editor of the American Agriculturist:

In the great variety of new fruits brought before the public, many of them will prove of great value to the cultivator. Among them is a new cranberry which was brought to my notice by Prof. F. Shepherd, of New-Haven, and by whom I was favored with a sample of the berries. This season, an enterprising merchant of Newfoundland brought several thousand gallons into Boston, and disposed of them at a remunerative price—less than the common cranberry.

In many respects they are found to be superior to our berries; they are not as tart, and need less sugar. By boiling them three-quarters of an hour they make a fine clear jelly, of a beautiful purple color, which can be kept for a long time. It will make superior tarts, and is also very valuable for dyeing purposes. I was not able to procure the plants until late last fall, and have not had an opportunity to learn how they will adapt themselves to our soil and climate. I shall plant them out the coming spring, and shall be glad to have others do the same. The few plants I have obtained were taken from the rocks and barren places, by pulling the moss and plants and decayed leaves, in which they grew, all up together, leaving no soil under them, which shows that they grew on poor shallow soil, on the highlands of Newfoundland; and the gentleman from whom I procured the plants, says: from the manner in which they are found, he has no doubt they will grow on any soil in the United States.

The plants are similar to our low cranberries, the leaf round and deep green, throwing up shoots from the roots like a mat, and covering the ground

with bright scarlet red berries, which look beautiful. They are gathered by hand, and I was informed that in one case a female gathered fifteen bushels in a day, which show their great productiveness.

I have the promise of a communication from a gentleman whose statement can be relied upon, and who is acquainted with its growth, habits, &c., and when received I shall lay it before the public.

F. TROWBRIDGE.

New-Haven, Conn

HINTS ON COOKING SALSIFY OR VEGETABLE OYSSTER—COFFEE-MAKING.

To the Editor of the American Agriculturist:

While sending my envelope for the Sugar-cane Seed, I will add a word or two suggested by your remarks on Salsify. You will of course use these hints if you deem them of value. I hope others may give their methods, and we may thus mutually benefit each other. Through the winter and spring, Salsify is a favorite dish on our table. We usually prepare it by boiling in milk until the slices are tender, adding pepper and salt, and a good slice of butter. When ready to serve, stir in two or three well beaten eggs, taking care not to let it boil afterwards. This is very nice poured over slices of toast.

Another way I have learned by a few trials which husband pronounces decidedly good. Boil until tender a pint or more of Salsify, mash fine, then add pepper, salt, butter, a few spoonfuls of milk or cream, a little flour, and two beaten eggs. Make into small cakes, and dip in flour or egg batter, and fry of a light brown. Perhaps some of your country friends, who, like us, live far from market, will pronounce this a good substitute for fried oysters.

Would a few simple rules on "Coffee-making" be out of place in your columns? Experience has taught me that it is *not* "the easiest thing in the world to make a good cup of coffee," but, on the contrary, a very easy thing to fail. I know that in my early housekeeping days, *my* coffee was often poor; why, I could not tell. If the few hints experience has taught me, will save *one* young housekeeper the mortification I have felt, I shall be amply repaid.

First, then, wash quickly through two or three waters as much coffee as you wish to roast, then carefully look it over, taking out impurities and every unsound kernel. Put it into a dripping-pan, and place in the oven, with the doors open until the coffee is dry; then with a lively fire and frequent stirring, let it remain until the kernels are a light brown all through. Then pour into a close vessel and cover tightly. When wanted for use, take a table-spoonful or more for each person, grind rather fine, and stir into it sufficient cold water to wet every particle. Before adding to your coffee boiler, look to it that the vessel is perfectly clean. It is not enough that it has been rinsed out,—it must be thoroughly washed with a cloth. You will, perhaps, laugh, but I have seen many an otherwise good cup of coffee made bitter and black from not obeying this simple direction. Pour to the coffee as much boiling water as you require, and let it once boil up, when it will be ready for the table. Let your cup be warm if the weather is cold, and your cream too, and my word for it, every time you fill your husband's cup, you will say (to yourself I mean,) "how beautifully yellow it does look."

EDITH.

A MISER'S EPITAPH.—What I spent, I saved; what I gave, I have; what I saved, I lost.

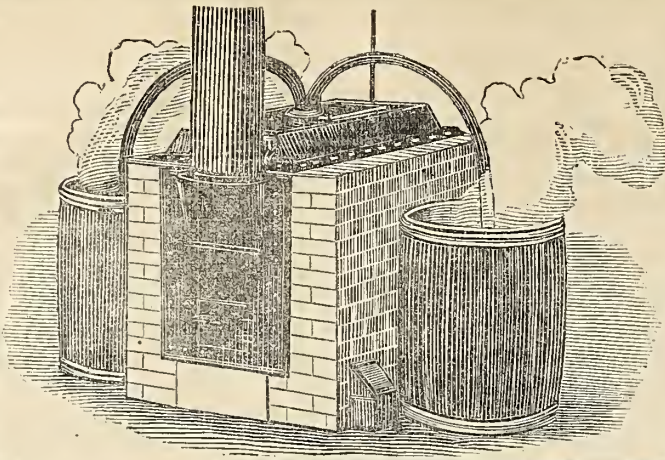
COOKED FOOD FOR FARM STOCK.

This cut represents a very convenient affair recently invented for cooking food for stock by steam, in large tubs and boxes. It is a cast iron kettle, with flanges set in brick work. It has a cover with a flange to match the kettle, so that it can be converted into a boiler at once, and, with suitable pipes, steam can be conducted into any part of the barn or piggery for cooking or warming food.

Every farmer can see the advantage of such an apparatus as the above in this cold weather. It meets a want that has long been felt,—a cheap, convenient kettle, that may at will be changed to a boiler for accumulating steam for any desirable purpose. In all new farm buildings an apparatus for cooking food should have a place. Well attested experiments show very conclusively the economy of cooking. Food enough will be saved in two seasons upon a large farm to pay for the expense of such a boiler as the above. Beef, pork, and milk are made much more easily with cooked food, and in a warm atmosphere, than by the ordinary methods in winter. This matter should have the attention of all farmers who are contemplating new buildings, or improvements in old ones. For further particulars consult our advertising columns.

THE ESTHETICS OF THE STY.

A pig, when he first enters upon existence, is not without beauty. Childhood admires his gambols, his ejaculations of surprise with pricked-up ears, his sleek white sides, as he hangs upon the breast. But beauty soon fades in the little porker, as in higher life. He is neglected, soils his fair skin, and becomes a loafer. Pigs should not thus be suffered to fall away from their original attractiveness. They are grunters by nature, and should never be suffered to squeal. They should live, the aldermen of the farmer's stock, in easy circumstances. They are too often far otherwise in cold, wet weather. Kept in small filthy pens, with imperfect shelter, and very poorly supplied with straw, it is painful to see them wallowing through the accumulated snow and mud, and squealing their discomfort in tones that drown the wintry blast. But the esthetics of the sty are not to be named, in comparison with the economy of this carelessness and filth. The pig should be kept as a gentleman in winter; he needs not the puddle or any of its appliances for ridding himself of vermin. He will not thrive without a dry yard, and especially without a snug warm bed to sleep in. He should have a snug board floor beneath him, as well as a board roof above him, water-tight. The frozen earth, even with a straw covering, conducts away the heat of his body very



rapidly. He wants underneath him the non-conducting wood to retain the heat. This greatly economizes food. Many farmers seem to think they have done their duty when they have protected their pigs from the droppings of the skies. But it is quite as important to protect them from the frost from beneath. A warm bed upon a board floor, we are persuaded, will make a difference of twenty per cent. in the fattening of swine. Now is a time of leisure, and these little items of farm economy should be attended to. If you have not a snug warm lodging-house for pigs, let one be built immediately. It will pay a large interest on the labor and capital invested in it, as long as you continue to use it.

PRESERVATION OF FORESTS.

In this season of the year, when the woodman's axe is ringing through all our forests, prostrating millions of trees, it is a timely subject of inquiry, What is to be the result of this wholesale demolition? The price of wood for fuel is annually increasing, and that price will continue to increase with the scarcity. Wood for lumber is also becoming more scarce and costly; some of the finer sorts are even now hard to obtain, and that only in small quantities. Are we not, as a people, living too fast in this respect, as well as some others? Wood and timber bring high prices in market, say the farmers, and why should we not realize the money? Our wood lots are worth what they'll fetch, and no more. Strip the land of its trees, turn the forests into bank bills, and then we shall have more room to plant more corn, and so realize more bank bills. The chief end of man is to make money. That's the English of it. So say too many of our land owners.

But let us look at this matter more carefully. Shall we estimate every thing by its value in ready money? As prudent managers of our inheritance, shall we take no thought for the future? Where will coming generations get their supplies of timber? How will they lament the bleak and naked hills, and cry out against us for despoiling them of their chief beauty, and leaving behind us few or no traces of our forest scenery, except in the *painted* landscapes in our parlors! If our forests are so valuable now for timber and fuel, will they not be

still more so to the next generation? Then why strip them off so remorselessly? Rather let them be husbanded. Let them be thinned out, but not utterly demolished. A careful calculation shows that sixty thousand acres of pine wood are cut every year in the State of New-York, and that at this rate, in the year 1875, these trees will have disappeared from this part of the country: It is said, also, that "the produce of tilled lands carried to tide water by the Erie Canal, in one year amounted to \$8,170,000 worth of property; that of farm stock for the same year is given at \$3,230,000; that of the forests, in lumber, staves, &c., at \$4,770,000. Thus the forest yielded more than the stock, and more than half as much as the farm lands." Shall we, then, utterly and forever exhaust this source of comfort and wealth? Let us beware, lest we kill the goose which lays such golden eggs!

Forest trees should be preserved, also, for their beneficial influence upon the climate. It is universally conceded that the winters of the Northern States are colder now than they were thirty and forty years ago; and that the weather generally is more windy, fluctuating and disagreeable. We have greater extremes of heat and cold, and severer drouths. Peaches once grew in abundance throughout Central New-York; now, it is almost impossible to raise them. The wheat and some other crops are more uncertain. These things are ascribable, not so much to any deterioration of the soil, as to the destruction of our forests. Formerly, our farms had belts of wood land, which broke the force of the winter and spring winds; our hill tops were covered with battalions of trees which defended the slopes and vales. The snow was not blown off from the tender grain crops in winter, nor were the fields laid bare to the blighting winds of early spring.

One of the greatest drawbacks to farm life on the Western prairies is the absence of forest trees. Wood for lumber and fuel is scarce, and houses and lands are exposed to the rake of merciless winds in winter and spring. Almost every mail brings accounts of extreme suffering at the West, on the open prairies. To make those lands a paradise for the farmer, they need nothing so much as the kindly shelter of wood lands.

In conclusion, we earnestly plead with the farmer for a more considerate use of his woods. Remove old trees, but touch the young with a sparing hand. Clear up your valleys, but do not strip bare the hill tops. Leave groups and single trees here and there in your pastures, both for the comfort of your flocks and herds, and for the beauty of the landscape. Plant belts along the north and west lines of your grain fields and of your houses. For purposes of shelter, evergreens are best; but mingle with these such rapid growing trees as the larch, scarlet-flowered maple, Dutch elm, basswood, and yellow locust. The time is coming when they who exert themselves to save the remnant of our noble wood lands, and who plant trees for the benefit of posterity, will be considered wise men and public benefactors.

SAVE THE OYSTER SHELLS.

Hundreds of bushels of these shells are every year thrown out into the streets in almost every village. Their only use is to make a good road, for which they are a valuable article. But they are worth much more for agricultural purposes, and every farmer living near a village who can procure them for their carting, should do so. They are much more easily reduced to lime than is generally supposed.

Brush, turf, peat, or old roots dug up from clearings will answer a good purpose. Pile any combustible material in a row about ten feet across, and three feet high, as compactly as possible. Upon this you may put, say fifty barrels of oyster shells. Spread them evenly, and put on another layer of the combustibles a foot or more in thickness. Bank the sides with old turf or sods and put sods on top. Fire the heap on the windward side and with a little attention the whole mass will burn down and make a "splendid ruin" for the farmer's purposes. The lime and ashes procured by this process will make a good dressing for land, but will be used to best advantage in decomposing peat and muck in the compost heap.

Many farmers are so situated that they can avail themselves of this source of lime, and thus furnish themselves with profitable employment during the winter months. Lime will work a great change in heavy soils, rich in vegetable matter, and make them far more productive.

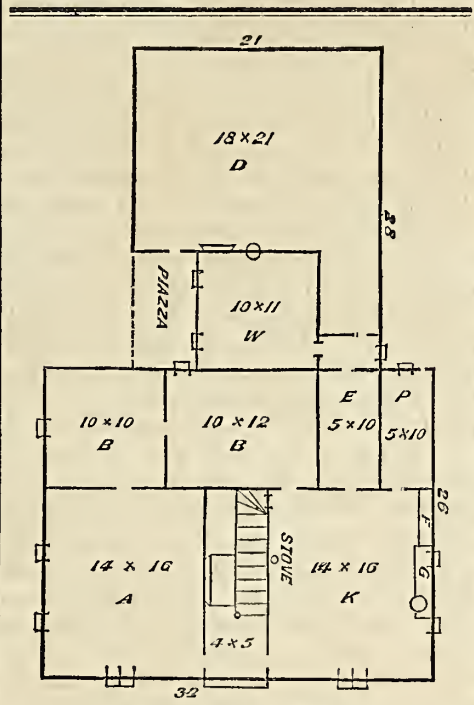
HAVE YOU SAVED ALL THE LEAVES?

They fell in beautiful varieagated showers, a few weeks since, through all the forests, and were gathered into the corners and little hollows of the wood. Here they now lie, heaps upon heaps, and often the accumulated deposits of years have formed a rich wood-mould many feet in thickness. These deposits are exceedingly valuable to the farmer and gardener for many purposes. While the snow is off they are easily gathered up and carted home. They make excellent bedding for stables and pig-stys. The mold is admirable for banking around the cellar walls. Before they decay, they are not good absorbents, but when mixed with manure they soon decompose, and then hold water like a sponge. They are an excellent article for hot beds, and are highly prized by the gardener for this purpose. They are rich in the inorganic ingredients of plants, and contain always some, and often very considerable quantities, of ammoniacal salts and other nitrogenous bodies.

This material, decomposed with lime or stable manure, is just what is wanted to put around young apple or pear trees to give them a vigorous start. It abounds in carbonaceous material, and will help make wood rapidly. The first thing wanted in a young fruit tree, is the wood. The fruit-bearing may be hurried up when the tree is well provided with limbs. Two years' growth may be made in one by suitable feeding, without at all injuring the tree. If you have a young orchard,

try the experiment in the spring, and wait the result.

To have the material on hand, visit the woods when it is practicable, and save the wood mold.



GROUND PLAN: FRONT.
A—parlor; B, B—bed-rooms; K—kitchen; W—wash-room; D—wood-shed; P—pantry; E—passage to wash-room, wood-shed, &c.; F—cupboard; G—sink with chain pump.

PLAN FOR A CHEAP AND CONVENIENT DWELLING.

To the Editor of the American Agriculturist.

Annexed, I send you the ground plan for a cheap and convenient dwelling. In the latter respect I think it cannot be surpassed. The pump, sink, cupboard and pantry all lying along the side of the kitchen, with cellar stairs at the opposite side of the room, make it especially convenient. As to its being pleasant, I leave every person to judge for themselves. It brings the kitchen to the front and pleasant part of the house, where in my opinion, it should always be, instead of placing it in some isolated part of the L. How foolish it is for a man to labor and toil for years to accumulate means to build a homestead, large or small, and then doom himself and family to the rear of the block. The parlor is equally pleasant. An oblong is more pleasant and convenient than a square room, which so much resembles a box. There are two bed-rooms; this is very important, as bed-rooms on the ground floor are indispensable. They join each other, which is very convenient in sickness.

I have given no plan of the upper floor, as that can be arranged to suit the taste of the builder. It can be built one-and-a-half or two stories high, according to the means of the builder, and cottage or plain. Here, where hemlock is worth \$9, and pine \$20 per M., such a house can be built, one-and-a-half stories high, for about \$600 above the under-pinning, with plain substantial finish.

L. L. PIERCE.

East Jaffrey, N. H.

THAWING ICE FROM PENSTOCKS, PUMPS, &c.

To the Editor of the American Agriculturist.

Having been troubled with water freezing in my penstock, I have hit upon a plan that proves to be a good one. Whether new to all others or not it may be to some. I take a tube, say a lead

pipe, and put the lower end down upon the ice, and with a tea-kettle pour hot water in the other end. The tube conducts the hot water directly to the ice and thaws it rapidly. By simply pouring in water in the ordinary way, the hottest or warmest portions remain upon the surface, while the colder portion remains at the bottom in contact with the ice. By using the tube the warm water comes in contact with the ice as it issues from the lower end of the tube.

E. H. WOOD

Charlemont, N. H., Jan. 9, 1857.

[From our Special Reporter.]

TIM BUNKER AT THE FARMERS' CLUB.

HIS VIEWS ON CHINA POTATO AND MIXED PAPERS.

Hookertown has at length a Farmer's Club. It was organized just after Thanksgiving, and may be regarded as one of the permanent institutions of that happy people. The farmers in the land of steady habits are proverbially cautious, and not carried about by every "wind of doctrine," whether in husbandry or in religion. But when a thing is done, it is generally well done, and will last until there is good reason for doing it away. The thing had been talked of by Deacon Smith and the minister, Rev. Jacob Spooner, for at least a year beforehand. They both agreed it would be a good thing in every point of view, if the people could only be brought to attend it. But there were so few agricultural papers taken in the place, that they doubted whether there was interest enough felt in the matter to sustain weekly meetings. So they let the matter rest until a Club should seem to be called for by public sentiment.

Rev. Jacob Spooner, the able and efficient pastor of Hookertown, is somewhat past his prime, though one might easily take him for a man ten years younger than he is. For forty years he has held his office, and molded public sentiment upon all secular topics, as well as upon religion. He is a good sample of a Puritan pastor of the present generation. He is regarded as timid by many of his juniors in the ministry, and altogether too cautious in the positions he takes in regard to the novelties of the day. But this reserve is the result of experience and age. He has seen the breakers, and knows more of the perils of a minister's life than his younger brethren. He is undoubtedly conservative, but not from any lack of moral courage. He has sometimes gone before public opinion in his parish, and knows something of the difficulties of bringing over a community to new opinions and customs. He always means to move in the right direction himself, and in his later years has thought it best, on the whole, to work in private for any new measure on which he had set his heart, before he committed himself to it in public. His shadow fills the place pretty well, and he is sometimes a little afraid of it, but nobody ever knew him to hold back from a thing that was really good and praiseworthy. When public sentiment is prepared by his "in-door work," as he calls it, the measure is pushed with a good deal of vigor.

A Farmer's Club in Hookertown was a fixed fact in his man's mind a year ago, and

the delay was only a wise way of making haste slowly. He wanted to say the right thing to Timothy Bunker, Esq., and his wife Sally, in his pastoral visits, and speak of the Club as a thing likely to turn up another season, if the farmers would take hold of it. He also had a few words to say to Seth Twiggs, John Tinker, and Tom Jones, and their neighbors, which would prove as good seed in good soil for his purposes.

These private talks of the minister, together with the fairs and the agricultural papers, had stirred up a good deal of interest in the community, so that everybody was prepared to see the notice stuck up on the sign post in Hookertown, in front of the meeting house, that the farmers and cultivators would hold a Club meeting at the schoolhouse, on the first Tuesday evening in December. The subject announced for discussion was the "Dioscorea Batatas or Chinese Potato."

The appointed evening came, and the schoolhouse, when the orthodox hour of early candle light appeared, revealed some five and twenty of the farmers, mechanics and professional men of the town.

Deacon Smith was appointed Chairman, and as the proceedings were not designed for the public, it was concluded to forego the usual ceremony of appointing a clerk. The Chairman laid the subject for discussion before the meeting, and called upon gentlemen for their views of the distinguished stranger.

He said the topic had excited considerable interest among cultivators, and a good deal had been said about it in the papers. A nurseryman of distinction had claimed for it remarkable virtues, and had threatened to drive out all known esculents with it from the country. Great pains had been taken to disseminate the tubers, and he had learned that some of the tin boxes were imported into Hookertown last spring. He had understood that gentlemen would be present this evening, who would relate their experience. The meeting was open for remarks.

Judge Bronson said he supposed the allusion to the tin boxes probably meant him, and he had to confess that he parted company with an 'X' last April for one of those articles. The contents, he said, were sand, and a dozen black looking articles, a little bigger than pepper-corns, that looked about as likely to sprout as so many crumbs of Indian bread. He said his faith leaned hard upon a pamphlet containing a beautiful illustration of the tuber, and a glowing description of its virtues and productiveness. He thought it was worth trying, and had tried it quite as thoroughly as any case he had ever tried in Court, and by ordinary rules of evidence, he was constrained to pronounce the claims put forth a great humbug, whatever might be said of the tuber itself.

Rev. Mr. Slocum, of Shadtown, next addressed the meeting. This gentleman's exchanges with the Hookertown minister have been more frequent of late, and as he always stops at Esquire Bunker's, it is mistrusted that something beside the Farmer's Club made him stay over to attend this

meeting. Perhaps Sally Bunker knows about that; your Reporter does not. He said that he had received one of the pamphlets which Judge Bronson had mentioned, and from what he could learn at the ministers' meetings, the work was pretty extensively distributed among the clergy last winter. Whether the operator in tubers thought that an unusual share of the green ones was to be found among the clergy, he could not say. Probably that view of their character had something to do with the liberal share of the pamphlets bestowed upon them. He was happy to state, however, that very few of his brethren had been caught in the trap, and those who had fooled away their ten dollars were best able to bear it. Gentlemen who had tried the new yam in his parish were disappointed with its performance, and thought it a swindle.

This brought up old Jotham Sparrowgrass, the distinguished uncle of Jeremiah, the Broadway clerk, who made such a figure shooting robins and bobolinks last summer, in Tim Bunker's cow pasture, as the readers of the *Agriculturist* will remember. Jotham had grown envious of Esquire Bunker's recent improvements and notoriety, and also of his neighbors, and though he was always running out against book farming and new fangled notions, he determined that for once he would steal a march upon them, and astonish the natives with potatoes a yard long. As soon as he saw the notices of the *Dioscorea* in certain leading political papers, he determined upon a venture, and ordered a dozen through his nephew, Jeremiah Sparrowgrass—him of New-York city.

"Swindle!" echoed Uncle Jotham as he rose and struck his cane upon the floor; "there has not been such a piece of rascality afloat since the Multicaulus fever. I got caught *then* with a Chinaman, and vowed I never would have anything more to do with book-farming. But those stories in my New-York paper looked so mightily plausible, that I was taken in again. You see, if they had only been in an agricultural paper, I wouldn't 've read 'em. But coming in a political paper, I thought they were all right. But I have now come to the conclusion that there is a mighty difference between potatoes and politics. A man sound in politics may be a blind guide in vegetables. Why, them things that cost me near a dollar apiece, they did not half come up, and what did come up might as well have staid down; they were such thin stringy consarns. Potatoes a yard long, and a rod of ground supporting a family!! Why, at the rate mine yielded, it would take an acre of 'em to support a pig, and if the one our folks cooked was a fair sample, the pigs might have 'em in welcome."

Tim Bunker, Esq., here got the floor, and, with a side glance at Jotham, said: "It would be well if cultivators who were going into new things would take a reliable agricultural paper, published by men who understood the business, and had access to the best sources of information in regard to the novelties that come out. He was not caught in this humbug, thanks to the *American*

Agriculturist, which gave timely warning to all its readers last winter. The fact is, there is too much of a disposition to mix up things in the papers. I think a political paper better stick to politics and news, and a religious paper stick to religion and missions, and when we have a farmer's paper, let the editor stick to his text, and not hash up potatoes with love stories. I don't mean to reflect upon any rural paper in particular. For my part, I want a simple diet in my paper as well as upon my table. Then I kuow pretty much what I have got before me, and it is all plain sailing. But you see this China potato first got a going in a political paper, and folks swallowed it whole as if it was all according to Gunter. But you see, the fellow that wrote about it was a cute chap, cyphering up a good speculation for himself, instead of calculating for the good of the public. The fellow promised too much by half. If he had only said he had got a good thing, and wanted folks to try it, it would have looked more reasonable. But when he came to talk about its feeding all China, and that it was soon going to feed all America, it was going a leetle too far. The funniest part of the whole story was, that he expected ministers were such greenhorns as to believe the whole of it, just as if the doctrine of total depravity had never been heard of in Connecticut. I doubt whether he goes to meeting much. The only safe way for us to avoid humbugs is to take a good agricultural paper and keep up with the times."

Meeting adjourned.

DIVISION OF LABOR UPON THE FARM.

This is a matter that has hardly begun to receive attention in this country. In England, it is carried out, perhaps quite as far as is desirable. There, labor of all kinds is much more divided than with us. Men in all the arts and trades are trained to a specific work, and so closely is their attention confined to their particular department, that they know little else. Thus, in the manufacture of a pin there are a dozen or more distinct manipulations to be gone through with, each one requiring the steady work of one man or boy. The pin-header confines himself to that business, and knows nothing of the work of the pointer, the polisher, the packer, &c. He is nothing else than a pin-header. The influence of this training is seen in all the mechanics that come over to us from that country. They excel in the knowledge and practice of the particular department of labor to which they have been trained, but can not compare with American artisans for general knowledge of mechanics, and for capacity to adapt themselves to any new department of their own trade.

The same thing is seen in their farm laborers. They do a given thing with which they have been acquainted, admirably, but are very awkward at tools they have not been accustomed to handle. But upon the American farm, one is trained from his boyhood to do everything, and he draws in the belief, with his mother's-milk, that he is a

universal genius, and there are no impossibilities to him. This training, so far as the cultivation of the man himself is concerned, is preferable to the English method. It takes both the mind and the sinews, and makes men versatile in character, and apt at all kinds of labor they may have occasion to perform in after life. But so far as the profit of the labors of the farm is concerned, we have no doubt that a division of labor would be a great advantage on very many farms.

Almost every thing can be manufactured more economically upon a large scale than upon a small one, and a better article can be made at the same time. We think the time has come when farmers should begin to study this matter in this country. We notice some essays in the right direction, which may be taken as examples of a reform that is practicable in almost every neighborhood, in a single department of farm labor.

There is a great cheese factory in operation in Trumbull county, Ohio. The proprietor does not keep the cows from which his cheese is made, but contracts with all the farmers within eight or ten miles, to furnish the curd from their cows at prices which net them a larger amount than if they manufactured it into cheese themselves. He usually pays about four and a half cents a pound for it. He keeps six or eight teams employed in collecting the curd from the neighboring farmers, some two hundred in number. Two rooms are occupied for curing the cheese, capable of holding three hundred and fifty tons. In these rooms the services of three men are constantly required. When ready for sale, the cheese is principally put up in tin boxes for the California and Australia markets. About two hundred tons of cheese have been manufactured the past season.

In Goshen, Connecticut, the pine apple cheese is manufactured upon a similar plan. It is so called from the shape in which it is put up. Though it is made in some private establishments, Deacon S. M. Norton & Son have for several years purchased the curd of their neighbors, and made up the cheese in large quantities. The mold on which it is pressed is smooth on the inside, and the markings upon the cheese are made by suspending them in nets while soft. The curd is kept one day before it is made up, and on Tuesday they make from the curd of Sunday and Monday, sometimes making a hundred cheeses in a day. The average amount of cheese made from a cow in a season is not far from three hundred pounds. The cheeses weigh about six pounds each, and they make about twelve thousand annually. The influence of this pursuit of a single department of farming, as practiced in this place, is highly favorable to the pecuniary interests of those who follow it, as the large number of thriving, independent farmers testifies.

We give these instances as examples of what may be done by a division of labor in a single department of husbandry. Here the offices accustomed to be performed by a single farmer's family is divided up into several departments. In the case of Trum-

bull county, two hundred farmers' families are relieved from a great part of the trouble of cheese-making. They have nothing to do but to run up the curd. A few men collect the curd; a few more press and cure the cheese, making that their whole business through the season. Thus the labor of two hundred dairy maids is saved in these families, and the farmers get better pay for their cheese than they would if they made it themselves.

There can be no doubt that the public who eat cheese are served with a much better article than they would be under the old system. A man doing nothing but making cheese can do every thing by rule, and can turn out an article of uniform quality, and get for it a uniform price. With most dairy maids laboring under the common disadvantages of a private dairy establishment, a cheese of uniform quality is impossible. Of course it is difficult to get up a name for a first rate article, and to get the highest prices.

We see no good reason why the labor of butter-making might not be divided in a similar way, and with like advantage to producers and consumers of the article. The cream might be as easily collected from a large farming district; indeed, more easily, for it would be only about half the bulk of the curd made from the same quantity of milk. In the manufacture of butter, almost every thing depends upon fresh cream and the manipulations of the butter, the working, salting and packing. Could this be done by a uniform process, and a first rate article be turned out, what an immense saving it would be to the producers. In no article of farm produce is there a greater loss from bad management than in this. Hundreds of tons are every year sold at half price, or even for soap fat, because spoiled in the manufacture.

There are other departments of farm labor that admit of division, which will occur to most men upon reflection. The threshing of grain is already a separate department in many of the States, and a single threshing machine does up this work upon fifty to a hundred farms. The mowing upon a smaller scale might also be divided. We throw out these hints for the benefit of our readers, and trust it will start them upon some trains of reflection profitable to themselves and to the farming interest. In case a butter factory is started upon our plan, we shall of course expect a tub of A No. 1 to be directed to this office for inspection. We are judges of a good article.

APPLE BREAD.

Apples are so scarce and high this year, that it will hardly pay to use them for any purpose, except as an occasional luxury. In some parts of the country, however, there is the usual abundance, and they may be used as in France, where a light pleasant bread is made by a mixture of apples and flour, in the proportion of one of the former to two of the latter. The usual quantity of yeast is employed as in making common bread, and is beaten with flour and warm pulp of the apples after they have been boiled, and the dough is then considered as set; it is then put into a proper vessel, and

allowed to rise for eight or twelve hours, and then baked in long loaves. Very little water is requisite; none, generally, if the apples are very fresh.

For the American Agriculturist.

SAVE THE CHAFF.

The chaff of Mediterranean Wheat, (and probably of other kinds of wheat,) when mixed with ground feed, is as good for horses, if not more healthful, than cut hay or cut straw. When hay is \$20 per ton, and straw commands a high price in the market, the saving of either is a matter well worthy the attention of the economical farmer. Oats chaff will be readily eaten by cows, either by itself or mixed with their feed. One of my neighbors tells me that he always makes this use of his buckwheat chaff. Clover chaff, mixed with corn meal, is excellent for cattle, especially for milch cows. When given to cows it should first be scalded with water boiling hot, then mix in corn meal in such quantity as you see fit, and temper with cold water, making a thick swill. Cows so fed twice a day in winter, will give twice as much milk, and need a less quantity of other nutritious fodder to keep them in good order. The same use can profitably be made of clover heads which drop out from among the hay, and are scattered about the stable or hay-house. Besides the direct gain in the article of fodder, by making a judicious use of chaff, the manure procured in this way will yield a richer return from the soil, than the manure made from chaff thrown directly into the barn-yard to rot.

Care should be taken that there be no *must* in any of your chaff. Every farmer knows, or should know, that anything musty, even grain, is highly injurious to stock.

MERCER.

A SUBSTITUTE FOR HONEY.

WINTER CHERRY—*PHYSALIS PERUVIANA.*

To the Editor of the American Agriculturist:

As there appears to be a desire with many to introduce new plants as substitutes for those long known and cultivated, allow me, through your useful paper, to recommend a substitute for honey. Most people consider honey a great luxury, and if we are to credit history this has long been so, for in the early ages, when they wished to give the highest recommendation to a country, they said "it flowed with *milk* and *honey*." As we often use a substitute for milk, why not have one for honey? Since the genuine article has become so scarce, I will recommend an article, which by taste, very few would be able to distinguish.

The fruit of the *Physalis Peruviana*, or Winter Cherry, when preserved with an equal quantity of white sugar, will be found equal to the finest honey for eating with biscuit and butter, and not readily distinguished by taste.

This plant, which is an annual of easiest culture, grows about two or three feet high, branching pubescent, leaves entire, fruit axillary, about the size of a Catawba grape, enclosed in an inflated calyx or bladder, from which it takes its generic name. It ripens in September, and falls to the ground when ripe, when it may be gathered, weighed, put into a vessel with a little water and sugar, and boiled until the fruit becomes soft. The remaining part of the sugar is then to be added, and the boiling continued until of the desired consistency, when it may be put in jars for use.

When once introduced into a garden, there is no fear of losing it, as it will, like the tomato, grow readily from seed dropped in the fall; but those who would have the greatest quantity of fruit from a few plants, would do well to start them in a hot bed.

N. GOODSSELL.

New Haven, Jan. 2, 1857.



CHINESE SUGAR-CANE—(SORGHUM SACCHARATUM.)

EXTRACTS FROM CORRESPONDENCE OF THE AMERICAN AGRICULTURIST.

No. 1.—WHAT THE CHILDREN THINK OF IT.—“ . . . My children spoiled half my plot of ‘ Sorgho Suere,’ before I knew it. They cut down the stalks to get at the solid pith, which they sucked as eagerly as they would the nicest stick of sugar-candy.—E. P.”

No. 2.—WHAT THE CATTLE THINK OF IT.—“ . . . In a former number of the *Agriculturist* your correspondent, I. H., said his cattle wouldn't eat the Chinese Sugar Cane. I can't understand that for mine were crazy after it, and they even broke out of a first-rate pasture to get at it. . . . I put before them a lot of the canes mixed with corn-stalks, and they nosed over the heap and selected all the cancs and eat them before tasting the corn-stalks.—H. L.”

No. 3.—CHEAP ADVICE OFFERED.—“ Ed. *Agriculturist* . . . I was preparing to make a nice thing out of this new sugar-cane sced. . . . If you had kept still I could have sold my sced at last year's price, viz. half a dollar an ounce ; but your offer of seed FREE, has taken the wind out of my sails completely. . . . As you have cut me out here, can't you give me a lift in another way? You know I have had much experience in sugar-making, refining, &c. Suppose you recommend those intending to set up mills here at

the North, to employ me to aid them. . . . I will write a letter of ‘ advice,’ giving full details, for \$25, or I will make visits for ‘ consultation ’ at \$25 per day. . . . If you can send me any business of this kind I will divide the profits—giving you say \$5 on every \$25. . . . You will of course consider this confidential.”

We will—unless Congress should pass a law compelling us to ‘ testify.’—Ed.

No. 4.—WANTED FOR OTHER PURPOSES THAN FOR SUGAR MAKING.—“ . . . Don't forget to send me some of the new sugar-cane in the enclosed envelope. I went in for \$10 worth of the Chinese potatoe (diseorea batatas,) and now I want the Chinese canes for the vines to run up on. Don't fail to send me the best seed you can, for I want canes *strong* enough to ‘ hold on’ to the yams and keep them from ‘ going home to China,’ as pictured in your Dec. No.—R. S.”

No. 5.—THE PERFECT STALK.—“ . . . Can you not give us a cut, showing the general form and appearance of the new sugar-cane, as it grew on your place? By so doing, you will oblige—MANY READERS.”

See next page.—Ed.

A RELIC OF BARBARISM.

We see still sad evidences of cruelty to beasts as we ride through the farming districts at this inclement season of the year. It is not beating horses over the head, or oxen across the ribs with a sled stake, but foddering them with corn-stalks at a stack-yard, with the temperature at zero. And this piece of inhumanity is often the result of pure heedlessness and ignorance.

We saw, last week, a civilized human being throwing corn fodder over the fence to his animals. They had no shelter, night or day, though the snow lay upon the frozen earth, and the keen wind sent a shiver through his bones as if the fork-tines had penetrated his flesh. He cannot bear such weather himself, but he somehow thinks cattle are not made of flesh and blood, and do not feel uncomfortable with a frozen bed, and frozen food, given to them in a freezing atmosphere.

Every beast before him has his back-bone arched, and his feet drawn up under him, and shivers ; but he takes it as an indication of comfort. He does not believe that an ox has the same animal nature as a man, and needs protection as much, in order to thrive. To what slow tortures are multitudes of beasts put at this season through the ignorance of their owners!

And this piece of barbarism is as wasteful as it is cruel. It takes a third more fodder to winter a cow in this way, and with all the

food she can eat, she comes out poor in the spring, and brings a lean calf. Either enlarge your barns or diminish your stock. Let not this barbarous practice of wintering your cattle at the stack-yard any longer disgrace the American farm.

OREGON CORN—“ WYANDOT ” OUTDONE.

For a year or two past, we have heard some tall stories of the doings of a species of soft corn, for which the lucky holders have been desirous of realizing “ only a penny a kernel.” It has not ripened well, nor is it likely to in our northern latitudes, however well it may do “ Down South.” The chief merit claimed for it, however, is, not that it is so soft that it need not be ground into meal—as it cannot well be before feeding—but that it is *such* a wonderful producer. A single kernel planted will send up two, three, four and more stalks, and each stalk will produce ever so many ears. But the Wyandot has had its day, if a correspondent of the *Pacific Christian Advocate* is to be credited. In a recent number of that paper, Mr. P. M. Starr writes that Mr. Charles Bales, residing near Mary's Run, in Benton County, Oregon Territory, planted one grain of corn the past season, which produced five stalks, yielding eight ears. These ears contained respectively, 496, 481, 454, 429, 416, 350, 321 and 292 grains of good, sound, well-ripened corn, making in all three thousand two hundred thirty-nine, in one season, from

only one grain planted. If Mr. Bales asks and receives only one cent a kernel for the seed, his single kernel will yield him \$32 39. Not bad farming that.

COTTON TEN DOLLARS A POUND.

Whoever heard of such a price, even for Sea-Island, in its best condition? We have, for a much poorer article. We kept Thanksgiving in the land of Steady Habits, and of course had to call on our friend and correspondent, Timothy Bunker Esq. Mrs. Bunker, it is well known, is a notable housewife, as might be inferred from the fact that her daughter Sally took a premium on bread at the fair. She remarked while at tea “ that there was nothing like a little management on the part of a housekeeper to make both ends of the year meet. You see our house is getting to be a little old, and the windows shake a little, in these windy days. A sight of cold air creeps in at the cracks, and it is almost impossible to keep warm with a rousing fire. The last time I was over to the store I bought a pound of cotton battings, and with a knife I have stuffed every crack about the doors and windows. Once the curtains used to blow about, and the tassels, almost as bad as if they were out of doors. But now you can not see a bit of motion when the wind blows a tempest.

Now, you see, I calculate, that it takes eight cords of wood to keep our fires a going during the winter, and this pound of cotton

put in to the cracks will at least save a quarter of the fuel. The two cords of wood are worth ten dollars, and that I am to have for the missionary box. That you see makes a pound of cotton, with a little calculation, worth ten dollars, besides keeping the whole family a great deal more comfortable. I should not have thought it would have made so much difference unless I had tried it. Even Esq. Bunker, the next morning, wanted to know if the weather had not moderated?"

We took the hint upon our return home, and used batting with the best results. We have not a doubt that Mrs. Bunker is right. Cotton in certain places at this season of the year is worth ten dollars a pound.

POOR MANURES—PAY FOR THEM NOT COLLECTABLE.

A recent legal decision in England would be of special application in this country also, but from the fact that here the dealers in useless manures are careful to collect their pay *in advance*. The case referred to was as follows: An agent of "Rolland's British Economical Manure" sold a considerable quantity to farmers in St. Martins, representing it to be equal in effect to twice the same quantity of guano, and presenting certificates in its favor as being much cheaper than guano. But wherever it was tried it turned out a total failure, and, so far as could be discovered, no effect whatever was produced by it as a manure.

Two of the purchasers refused payment, and were served with a "debt complaint." They replied to the complaint that they were led by representations and certificates to expect certain results, and as it was clearly proved that these results were not realized, they were not bound to pay for the article. The sellers pleaded that their prospectus was correct, and the certificates of recommendation genuine, and this proved, they were not bound to guarantee a crop.

The Court held that it was proved that the manure was of no use whatever in the defendants' district, and as the purchasers had bought it for their own district, upon the recommendation of the seller that it would produce certain results, he was to be held as guaranteeing that those results should be obtained.

The farmers were of course released, under this decision, from paying for the manure. A counter suit, if terminating rightly, would have accorded damages to the purchasers from the sellers, for time and other expenses lost in using a worthless article. We doubt not but many farmers in this country could collect damages for the impositions practised upon them. How many have paid out their fifties and hundreds of dollars for articles wholly or nearly worthless, and known so to be by the seller. If false or discolored statements are made as to the composition of a manure, or of its actual benefits; or if certificates are put forth that such and such results have been obtained by a fertilizer under a certain name, while a different article (under the same name) is sold upon the certificates offered, what is it but swindling, but taking money under false

pretenses? We think there is no doubt but a court of justice would so decide. Those who have grown fat upon swindling farmers who have trusted to their representations, may yet find an uneasy berth.



THE NEW SUGAR CANE.

We have seen a number of engravings of this plant, in the Patent Office Report and elsewhere, all of which appear to be copied from a French Horticultural Journal. Above we present an original engraving from a sketch of a stalk taken from our own experimental plot. We planted thickly in the drill, cutting out the stalks, four to six inches apart. The cane here represented is fourteen feet high, with thirteen joints. This was about the average of our late planted plot. The engravings we have thus far seen represent half a dozen canes growing from one root. Ours sent up but one in most cases, though two or three occasionally appeared, as shown in the side figure.

CULTIVATION.

This may be very similar to that of Indian corn. For small experiments, we recommend planting in drills, north and south, dropping the seeds two to three inches apart, and then cutting out the alternate plants, if all the seeds germinate; or they may be transplanted, if desirable. For culture on a large scale, where the plow or cultivator is to be used, planting may be in hills three to four feet apart, each way, so that the plow may be run both ways between the hills.

The preparation of the soil and manures

may be the same as for corn. When ripening of the seed is a special object, the earlier it can be got into the ground and escape spring frosts the better. With us the seed ripened the past season in about one hundred and forty-five days from planting. At the far North, we recommend starting a few seeds about April 1st, in a box which can be moved in doors during freezing nights. When all danger of frosty nights is past, carefully transfer the plants and adhering soil to the open ground. In this way a supply of home-raised seed will most likely be secured. As a general thing, however, should this plant be found worthy of cultivation in the colder regions, it will probably be cheaper to obtain seed from warmer localities.

Half or more of the subscribers to the Agriculturist are intending to experiment next summer, and we shall therefore take occasion to refer to the subject frequently, and furnish information as to testing it for sugar-making, as well as feeding. Up to this date we have distributed to our subscribers between five and six thousand parcels of seed, averaging full three hundred seeds in each. (The seed is measured out, and may sometimes exceed, and sometimes fall a little below this number.) We are preparing some eight to nine thousand more packages, with the expectation of mailing them all this month (February). If more than this number is called for, we shall furnish them, if the seed can be obtained at any price. At the time of this writing (Jan. 20), there is only a small amount of seed to be purchased in this city, but we have several packages on the way here, and several dealers are expecting immediate supplies, which they are now advertising, at much lower rates than we have paid for most of that obtained so far. We have no hesitation in promising a small parcel to all our subscribers who apply previous to February 15th or 20th, and perhaps later. The applications are usually filled in the order of reception, and those who applied previous to January 10th, who do not receive the package by the time this number arrives, may consider that it has been lost by mail. In such cases we shall be happy to send a new package.

Nearly a hundred persons have asked us to supply them with a larger quantity. We repeat, *we have none to sell*. We say again, to all our readers, do not be carried away with the present mania. Try a small plot, and wait the developments of another season. If you succeed well with the amount we furnish free of cost, you will have an abundance of seed next year. If, however, you can get seed at a reasonable price, there will be little risk in planting an acre or so, to be used as fodder, if not for syrup making. In a month or two we will give a plain description, with the cost, of a cheap mill for grinding or crushing the canes. Plans and estimates are in the hands of manufacturers. Where several persons in a neighborhood are determined to try their hand at making syrup the coming season, they can club together and get a cheap mill, which will do the work for all

The United States Patent Office—Agricultural Department—is sending out considerable quantities of seed; and at the recent meeting of the United States Agricultural Society, it was voted to purchase and distribute seed enough to plant one hundred acres (if it can be got). We still extend the invitation to all our subscribers who have not yet applied, but who desire to experiment on a small scale, to send in a *ready directed*, post-paid (3-cent) envelope, and we will enclose them a package in due time. If our supply grows short, we shall have to diminish the amount to one hundred and fifty or two hundred seeds each, instead of the three hundred now being sent out.

We have received a number of communications on the subject, from which we select and give the following two:

COLD SPRING HARBOR, L. I., N. Y., Jan. 21, '57.

To the Editor of the American Agriculturist.

... Last year I found it produced a very sweet juice, and I saved enough seed from ten plants to put in half an acre. One half I fed out, and found horses, pigs and cattle, eat it with avidity, though when ripe, owing to the flinty skin, the latter could not eat it. The balance, after breaking the joints with a mallet, I passed once through a rude self-constructed pressing apparatus, and it produced, when boiled down, seventy gallons of good syrup or molasses, which I am daily using in my family. I am so well satisfied with my past year's experience, that another year I shall plant several acres, and with a good machine that will press all the juice. I have no doubt but I can produce eight to ten barrels to the acre, at a cost *not exceeding* twenty-five cents the gallon. I see no reason why, in a few years, every farmer who can raise Indian corn should not raise his own molasses, as the same climate is favorable to both, and I have little doubt but it will be the case. I have omitted mentioning that when cut down for fodder, at about four feet high, it sprouts again and produces a good second crop.

J. D. HEWLETT.

KINGSVILLE, Ohio, Jan. 1, 1857.

To the Editor of the American Agriculturist:

... Last spring we received a paper of the Chinese Sugar Cane Seed from the Patent Office, by Hon. J. R. Giddings, which we planted in four rows, four stalks in a hill, eleven hills in a row. We cut it up about the 17th of October, stripped the leaves from the stalks, crushed it, and cut it into short pieces, and boiled it in water. The liquid was then strained through a coarse cloth, boiled down to molasses, and to our great surprise we found that we had made two gallons of quite palatable molasses. I do not think we expressed all the juice that we might if we had been more experienced in making it. We think of raising a larger quantity another year. The cattle of Mr. I. H. must have had quite unusual tastes if they would not eat this nutritious food, for ours ate it both before and after it was boiled—in fact, they would leave good pasture, and eat it up before leaving it.

A LAD OF FOURTEEN.

We omit the name of our intelligent correspondent by request.

Why is a cowardly soldier like butter? Because he is sure to *run* when exposed to *fire*.

It is said that a favorite pair of horses with the Emperor of France were raised in Lewis County, N. Y.

A CHAPTER ON BEANS.

"You don't know beans with the bag untied" is a rural proverb, putting down a neighbor's knowledge at a very low figure, if not the lowest. Yet upon cross-examination, it might appear that many who depreciate their neighbor's knowledge touching beans in the open bag are not themselves adepts in this vegetable. Their acquaintance is limited to white beans cultivated between corn, in the field, and to case-knife beans that run upon poles in the garden. Of the scores of varieties that may be found in almost any of our agricultural warehouses and seed stores, they would be unable to tell the names with the bag tied or untied.

The knowledge of these finer varieties, especially the kidney family and the Limas, ought to be diffused wherever there is a garden in which they can be made to grow. There is as much difference in beans as in any other product of the garden, and the cultivation of the old inferior varieties ought to be discarded.

HISTORY.

This is one of the vegetables longest cultivated. It goes back to Greece and Rome, and even to Egypt and Barbary, in the earliest ages. Bean soup was no doubt a favorite pottage of the Israelites in the valley of the Nile, and with the leeks and onions was an object of their longings amid the journeyings of the wilderness. It is from the East that we have received our varieties, through the mediation of French and English cultivators. But beans are neither more nor less valuable on account of their antiquity. We mention it, as evidence of the high esteem in which they have been held as a vegetable in all ages. This popularity is accounted for in the fact that they are among the most nutritious as well as palatable of all vegetables used for human food.

According to the chemist Einhof, the proportion of nutritive matter in beans is even greater than that of wheat, which stands highest among the grains, containing seventy-four per cent., while French beans contain eighty-four per cent.

Sir Humphrey Davy gives as the analysis of kidney beans in 3,455 parts:

Starchy matters.....	1,805
Albumen and matter approaching flesh in its nature.....	851
Mucilage.....	799
Total.....	3,455

Beans have a peculiar principle termed legumen, which is analagous to casein, the animal principle in milk. No vegetable in the garden is so good a substitute for meat, and will go so far in sustaining the strength of the laboring man.

VARIETIES.

There are several distinct families of the bean, and numerous varieties originated by hybridizing and by change of climate and cultivation.

The *English Dwarf Beans*, embracing the Early Long Pod, Broad Windsor, Early Mazagan, and some half dozen other varieties, are a coarse article, and have been nearly driven out of all good gardens by

The *Kidney Dwarf Beans*, embracing the Early Mohawk, Early Six Weeks, Early and Late Valentine, the White, Red, and Yellow Cranberry, and some dozen other varieties. These are known among the marketmen as Bunch Beans, Snap Shorts, and String Beans. In England, they are generally known as French beans, and some splendid and very prolific beans have been sent out from the Patent Office recently, under this name. Any of these varieties of the Kidney family are far preferable for a dish of baked beans to the common white field bean.

THE CULTIVATION

of these dwarfs is no more difficult than that of the field bean, if seasonably planted. They are very tender, almost as much so as a melon, and for that reason should not be planted in this latitude before the middle of May, in the open ground. If the ground is not well warmed by the sun, they are very liable to rot, or, in case they come up, to be cut off by the slightest frost. In sheltered localities, or where artificial warmth is imparted to the soil by underdraining and high manuring, it may do to plant a week or two earlier. For a succession through the season, they should be planted at intervals of two weeks, until the first of August. They are usually planted in double drills, about two inches apart, the drills from eighteen inches to three feet apart. They delight in well-decomposed manures, and in light, well-drained soils. They require frequent stirring of the soil, but should never be hoed when the dew is on, or when the vines are wet.

POLE BEANS.

The garden hardly affords a more beautiful sight than the department allotted to this crop, when the runners cover the poles, making thick massive pyramids of green, variegated with blossoms of white, pink, and the most brilliant scarlet. We have seen many less brilliant spectacles in the flower garden. The pole beans are more prolific than the dwarfs, and require more room Here,

THE KIDNEYS

occupy a prominent position, and are the best known of all the varieties. The English reckon six varieties: Scarlet Runner, Large White, Large White Dutch, Canterbury, Small White, Variable Runner. These are cultivated in this country under these and a great variety of other names, for there is nothing in the garden more confused than the nomenclature of beans. The Butter beans, Asparagus, and the Cranberries, belong to this family. They are all excellent, but none of them equal to

THE LIMA BEANS,

which should be the main crop for family use, wherever the climate will admit of their cultivation. The only drawback to them is that they require a longer season for ripening than the Kidneys, and in the northern parts of New England are an uncertain crop. But even here they may be raised for use while green, by procuring seed ripened in a more southern climate, and it is not improbable that the skill of the gardener will so shorten its period of matu-

THE JERUSALEM ARTICHOKE.

This is a very different plant from the artichoke of European gardens. Indeed it is no artichoke at all, but belongs to the sun flower family, (*Helianthus tuberosus*), and probably derives its name from a slight resemblance of the taste of the tuber to the lower part of the stalk of the true artichoke. There are two varieties of the European article, (*Cynara Scolymus*, and *Cynara Hortensis*.) Cobbett, who wrote as well upon horticulture as upon politics, and much more amiably, says "they resemble the thistle of the big-blossomed kind. The parts that are eaten are the lower end of the thick leaves that envelope the seed, and the bottom out of which those leaves grow. The French, who make salads of almost every garden vegetable, and of not a few of the plants of the field, eat the artichoke in salad." We think they found rather a hard subject, even for their cookery in this article. It is sometimes found in the New York market, but is only sought for by those who have been accustomed to it in other lands. It is said to be fastidious in its habits, and not easily raised in our latitude. As we have a poor opinion of the vegetable for American palates, we give no direction for its cultivation, and pass to its name-sake, which is the only thing suggested by the name artichoke, to most of our readers. It is quite widely disseminated in all parts of the country, is very hardy, survives our winters, and holds its own in any corner of a garden where it is planted, with as much tenacity as pig weed or purslain. Its great productiveness, its nutritious quality and hardiness, recommend it as a good crop to cultivate for stock.

THE JERUSALEM ARTICHOKE,

Or *Helianthus Tuberosus*, as its name implies, has some resemblance to the sun flower. Its stalk, though much more slender and delicate, has the same general appearance,—is short and woody, and in good soil attains a height of six or more feet.

CULTIVATION.

This is as simple as that of the potato. They may be raised by planting the tubers whole, as soon as the ground opens in the spring, or by sets and cuttings. The rows should be three feet apart, and the plants eighteen inches apart in the row. If closer, the ground will be too much shaded by the stalks, which are tall, and well furnished with leaves. They should have the full benefit of the sun, and the earlier they are planted the better. The treatment after planting is like that of the potato. The weeds are to be kept down by frequent cultivation or hoeing, and early in August the stalks are to be cut off near the middle. This will give the ground more sun, and increase the size of the tubers. The tubers should be dug with care, and every one removed from the ground, as the smallest of them will be sure to survive the winter, and vegetate again the next spring.

USES.

Bossingault says that this plant draws its supplies of nitrogen almost entirely from

the air. However this may be, it is a well known fact, that it exhausts the soil less than most other crops. It flourishes well on comparatively poor soils, has a very large burden of stalks and leaves, and for this reason makes a good plant to turn in, as a green crop, if the plowing be done early, before the tubers are formed.

In Europe, the stem is used for cordage and cloth. When macerated the fibres are easily separated, like those of hemp. It will grow and make a large crop on soils where hemp will not pay.

But the chief value of the plant, at least in this country, must be as an article of food. In the early spring, when fresh dug from the earth, or taken from the winter store house, it forms an excellent side dish, sliced up in vinegar like cucumbers. They are also cooked like a potato, but will not prove a formidable rival to that vegetable. They should be scraped and put in boiling water, with a little salt. The large tubers need boiling two hours. They should be served up with melted butter.

But among us, where the best vegetables are so easily cultivated, we do not think it will ever attain a conspicuous place as an article for human food.

For stock it has many excellent qualities, and if it does not drive any of its rival roots out of the field, it may hold an honored place among them. It is a very important point that it does not demand a rich soil to make a paying crop. It will yield, with similar soil and culture, a good deal more than the potato, and in poor soils at least double, while the farmer runs no risk of the rot. Hogs are very fond of them, and in the fall of the year would harvest the crop for themselves, saving quite an item of expense to the cultivator.

Allen states, in his *American Agriculture*, that "the product, under favorable treatment, is enormous, sometimes overrunning two thousand bushels to the acre. It is peculiarly fitted for spring feed, as the roots lie unimpaired by the vicissitudes of the weather, and may be taken out in perfection after most other roots are gone." The Jerusalem Artichoke, we think, deserves a much higher place in our husbandry than it now possesses.

GUM ARABIC.—In Morocco, about the middle of November, that is, after the rainy season, which begins in July, a gummy juice exudes spontaneously from the trunk and principal branches of the acacia tree. In about fifteen days it thickens in furrows, down which it runs, either in a circular or worm shape, or commonly assuming the form of oval and round tears, about the size of a pigeon's egg, of different colors, as they belong to the white or red gum tree. About the middle of December the Moors encamp on the borders of the forest, and the harvest lasts six weeks. The gum is packed in very large sacks of leather, and brought on the backs of bullocks and camels to certain ports where it is sold to French and English merchants. The gum is highly nutritious. During the whole time of the harvest, of the journey, and of the fair, the Moors of the desert live almost entirely upon it; and experience has proved that six ounces of gum are sufficient for the support of a man twenty-four hours.

ity, that the seed will ripen in all parts of the country. Its cultivation is gradually extending, and where its merits are once known, it displaces all other pole beans. There are two varieties of the Lima bean, the white and the green; the latter is the largest, but the white produces the best crops, and is most extensively cultivated. It is known as the frost bean in many parts of the country, because the frost always surprises it in full bearing.

Cultivation.

The Lima bean requires a stronger and richer soil than the kidneys. It is enormously prolific, and there seems to be no limit to its bearing, but the strength of the soil and the length of the season. The hills should be planted in rows four feet apart, and three and a half feet apart in the row. The ground should be made very rich, if it is not already so, and the soil should be raised a few inches around the pole, and the seed be planted with the eye downward, about two inches deep. Six beans to a hill are enough, and if they all come up, they may be thinned out to three or four plants. The vines are greatly inclined to run, but should be confined to poles six or eight feet long, and should be shortened-in when the pods are well set

Uses.

These beans are used invariably without the pod, and for that dish which is the glory of all Yankee housewives from Maine to Georgia, "Succotash," there is nothing like them. No matter what corn you may have to make up the other half of the compound, it never has the perfect ambrosial fragrance until the Lima bean has diffused itself through the mass. It is an excellent vegetable boiled by itself, and served up as an independent dish. In the winter, it is much used in this way, and no good housewife is perfect in the preparation of her winter stores until she has secured a large bag of these beans. They are an excellent substitute for potatoes, and at four dollars a bushel, far more economical. They always bear a high price in the market, both in summer and winter, which is good testimony to the high esteem in which they are held, and to the inadequate supply of the article. Not only are the perfectly ripened beans available for winter stores, but the larger green ones, if taken from the pod before frost comes, and dried in a room with artificial heat.

This bean, which hails from the city that gave it name, is really one of the best gifts Peru ever gave to the world. And yet it is not known in one farmer's garden in ten. We earnestly exhort all our readers to plant this bean. A quart will plant four hundred hills. Put this on your memorandum when you visit the seed store. We shall give seasonable hints on its cultivation when the spring opens.

What men want is not talent, but purpose; in other words, not the power to achieve, but the will to labor.

Were it not for the tears that fill our eyes, what an ocean would flood our hearts!

Garden, Orchard, Lawn, &c.

CHAPTERS ON STRAWBERRIES.

CHAPTER II.

We will now endeavor to explain the *sexual* character of the strawberry. Although this subject has been frequently referred to, few persons, we believe, have any clear notions of the matter. This is not one of theory only, but of much practical importance. We have frequently heard complaints of strawberry beds not bearing any fruit, although the plants were in good condition, and gave great promise of fruit, having been white with bloom. Now, if the character of the plant had been known by the owners of these beds, no such disappointment would have occurred. A peculiarity of sexual character belongs to two species of the strawberry, which we believe does not attach to the other species. If the wild plants of North America (the Virginiana) be carefully examined, it will be found that on some, all the blossoms are perfect, being furnished with both sexual organs, stamens and pistils. Such plants will bear fruit of themselves. Other plants will be found, all of whose blossoms are entirely wanting in the male organs; that is, stamens. Such plants being furnished only with *pistils*, or the *germs* of berries, will not perfect their fruit unless they are made fertile by the pollen coming from plants that have the male organs. The same is true of the Hautboy of Bohemia. The Common Wood Strawberry of Europe has always perfect blossoms, and so have the Alpine strawberries. The Grandiflora, sometimes called Pine strawberries, and the Chili, frequently have both kinds of blossoms on the same plant, but have not a distinct separation of the different sexual organs; that is, no *plant* is wanting in the male organs. These peculiarities of the different species are propagated when plants are raised from seed. This peculiarity of the sexual character of the Hautboy strawberry was long since noticed in England. Some kinds raised from the seed of the Hautboy were found to be very productive when in the vicinity of other Hautboy strawberry plants, but were entirely barren when standing alone. Although this sexual nature of the Hautboy was well known in England, it was not supposed to be incident to any other kind. This may be accounted for, from the fact that nearly all the most esteemed kinds grown in England for a long time have been raised from the Grandiflora, and therefore not subject to this anomaly. We have only known one or two varieties raised in England that were deficient in the male organs. But in the United States, where seedling plants have been raised from the Scarlet strawberry, and from the Pine and Scarlet combined, it has been no uncommon thing for plants of these different sexual characters to be produced, and it has so happened that some of our most esteemed and productive kinds have been wanting in stamens. Of these we might mention the Hudson Bay, Hovey's Seedling, Burr's New Pine, and McAvoy's Superior. All of these, from the smallness of their blossoms, we

judge to be Seedlings, partaking of the nature of the Scarlet strawberry. The sexual character of the Hudson Bay was noticed many years since by the elder Mr. Prince, of Flushing, Long Island, who was in the practice of planting about ten plants having the male organs to one hundred of those having but the female organs. More recently, the same was practised by some German gardeners of Cincinnati, from whom the secret was learned by Mr. Longworth, who made it known to the world. During the last ten years, much has been said and written on the subject. By many, the facts have been denied, but in all cases, it has been found that they have been either deceived in the kinds with which they experimented, or did not take sufficient caution to prevent the plants from being impregnated by others in their neighborhood. Some again have contended that plants change their character from difference of soil or season; but this has in no case been really the fact. New plants spring up very rapidly from seed, which, being undiscovered till full grown, and being of a different sexual character from those planted, have been supposed to have really changed their habits. Again, plants purchased from nurserymen have frequently been mixed. Sometimes plants have been sent out under wrong names.

The strawberries in cultivation may be divided with respect to their sexual character into three classes.

1st. Plants in which the blossoms are all perfect; that is, having both pistils and stamens. Such plants will fruit by themselves, and on that account are preferable, provided they are as productive as the other kinds. But nearly all of these are liable to blast; some more and some less. These are called Hermaphrodite or Staminate plants.

2nd. Plants in which the stamens or male organs are wanting. Plants of this character are usually productive, provided they are impregnated by kinds having male organs. These are called pistillate or female plants.

3d. Plants on which some of the blossoms are perfect, while others want the male organs. We have no name for this class of plants—they are usually called Hermaphrodite.

These three kinds never change their character by being propagated from runners; but when their seed is sown, the plants thus raised may be of either of three kinds.

The difference between Staminate and Pistillate (male and female) Strawberry plants will be made more plain to the common reader in our next chapter, by the use of cuts, &c.

(To be Continued.)

MORE SEEDS OFFERED FREE.

WYANDOT CORN.—Mr. V. M. Hodgson, Secretary of White Plains Horticultural Society, White Plains, N. Y., has a small quantity of the Wyandot Corn, of his own raising, of which he will send enough for planting 20 or 30 hills, to any of our readers who may wish to give it a trial. Any one asking for it will of course furnish a prepaid, directed envelope.

SWEET CORN.—Dr. J. A. Brenneman, of Rock

Grove, Stephenson County, Ill., writes us that he has a variety of Sweet Corn, different from the common kind, which has grown very thrifty, some of the ears being sixteen inches in length, with two and three on a stalk. He proposes to send a few kernels to any subscribers of the Agriculturist on the same terms as above.

THE CURRANT.

There are no more desirable accessories to the garden than our small fruits, whether cultivated for profit or family use. We have before had something to say on the subject, and recur to it again, not alone for the benefit of our numerous new subscribers, but because Horticultural knowledge, like other kinds of knowledge, is necessarily conveyed by "line upon line, precept upon precept." We shall confine the present article to the Currant. Some may think it needless to give directions for cultivating the currant, since almost everybody who has a garden grows it. But we think not. To *grow* a plant involves the idea of cultivation and care; at least, it includes something more than sticking a plant in a hole, and gathering the fruit in the course of time. If this be true, then probably not more than one in a hundred *grows* the currant; it grows itself, and no thanks to any body. We know of no plant more neglected than this, and we know of none that yields a more generous return for proper care. No fact in Horticultural science is better established, than that high culture is a wise economy. This remark will apply to the currant with peculiar force. It is true, so generous is its nature, it will from year to year produce a moderate crop under very bad treatment; but when judiciously cultivated, the product is wonderfully augmented in quantity, quality and size. In addition to this latter fact, a healthy, well-grown, symmetrical plant, gladsome with its peculiar treasure, always produces an emotion of pleasure in the beholder: a matter of no small moment to those who would extract pleasure even from the sweat of our brow. If, then, additional profit, as well as no small degree of pleasure, will result from the application of skill and care to the treatment of the currant, let it by all means be done. Let it no longer be thrust into a corner, or some other out-of-the-way place, but bring it out into the open air and genial sunshine, and minister properly to its wants. It is almost useless to attempt to bring into shape, vigor and productiveness, old, unsightly, and half-decayed plants. It is better to begin anew. We do not like plants grown from suckers. Procure those grown from cuttings, and remove all the eyes and shoots so as to produce a clean stalk a foot or more high, above which the head should be formed. This stalk must always be kept free from shoots.

Let the ground be trenched a couple of feet deep, and incorporate with it an abundant supply of well-rotted manure. In planting, remove enough earth to spread the roots out in their natural position, cutting off all that are bruised; and be careful not to plant too deep. Tie the plant to a small stake till it becomes established; thin out

the shoots so that a round, open head will be formed; shorten in all the remaining shoots about two-thirds of their length, and the work of planting will be complete. The subsequent treatment will only become difficult through neglect. An annual pruning is indispensable, which may be done during the winter, or very early in spring, and which consists mainly in shortening in the last season's growth, leaving about six inches of new wood, and cutting out entirely all branches that cross or interlace each other, so as to keep the head well open and in good shape. Suckers must be eradicated as soon as they make their appearance. Fork in some good old manure in the spring, and keep the ground mellow and free from weeds. If the soil is stiff, the manure may be applied in the fall, and forked in in the spring. If you have done the work thoroughly and skillfully, you may look confidently for an abundant reward.

This article would be incomplete without a list of desirable kinds. The *Red* and *White Dutch* are, on the whole, about the best, and are recommended for the general crop. The *Cherry* is a large and splendid variety, but not very productive. The *White Grape* is also large and handsome. Large *White Provence* is a very large and handsome new variety. May's *Victoria* is late, and a good bearer, with long bunches of fruit. *Prince Albert* is a fine late red variety. *Black Naples* and *Bang Up* are the best black varieties, and are good for jellies. *Knight's Sweet Red* we grew four years before we discovered that the "sweet" was produced by the liberal addition of sugar. The *Long-bunched Red* is a desirable variety. The list might be extended, but we think the above more than enough; they are the best, so far as our experience goes. We repeat, however, that the *Red* and *White Dutch* will give most satisfaction for a general crop.

GRAPE CULTURE—NO. II.

The principal objects of these chapters is the dissemination of useful and practical information to those who wish to cultivate and enjoy the fruit of the grape vine, and yet do not desire, or cannot afford to employ a professional man; and as this position demands plainness and simple directions, I will strive to fulfill the requirement.

The natives have been alluded to, by which I mean the improved cultivated varieties of some three species which are found growing wild in our country. These are hardy, thriving and producing fruit, in the open air, when properly treated. We have as yet but few kinds superior to the original varieties, and even these are capable of improvement. This, however, is not to be gained as much by any peculiar skill in the management of existing sorts as by producing new varieties from seed, although superior cultivation will, as a general thing, improve the size and flavor of any variety.

VARIETIES.

Among the hardy kinds under cultivation at the present time, which may be recommended, are *Isabella*,—which is No. 1 for the Eastern States;—*Catawba*—for the West;—*Concord*, *Diana*, *Rebecca* and *Hartford Prolific*—for the North, or even the Northern and Western States

generally. For the South, the *Scuppernong* with its varieties, answers best.

The exotics, or foreign varieties, for the most part, belong primitively to the Asiatic Continent, but are cultivated over all favorable parts of Europe. They are capable of bearing intense frost, but do not thrive well without protection in our variable climate. We can, and do, notwithstanding, grow them in glass structures to as great perfection as any of the cultivators in older countries. These are very far superior to our natives, and are so fast becoming a popular fruit that it is necessary to show how a suitable house can be cheaply constructed.

COLD GRAPERIES

are buildings, or covered arbors, in which vines are trained for protection against sudden changes of the atmosphere, and especially to ripen those varieties which would be injured by early frosts, or in other words, which will not mature their fruit by out-door culture in our comparatively short summers. A suitable structure for a private family can be conveniently erected against any side of a dwelling except the north, by building a sort of piazza, with glass roof and sides, having two or three sliding frames in the top for ventilation. Such a structure could be put up at very little cost, and may be by the side of any other building as well as the dwelling house, in the form of a glass shed.

About ten vines are enough, and if properly treated will yield the year after planting 50 lbs.; the next year 100 lbs.; the third year 200 lbs of grapes,—and the latter quantity each season afterwards. If the covered piazza be adopted there need be no soil inside, as the vines may be planted along the front three feet apart, and the tops introduced level with the ground, to be afterwards trained up the *front inside*, and along the *underside* of the roof. In the shed form it will be best to make a portion of the soil in the house equally good with the outer bed, and plant on the inside front of the house. The most profitable and hardy kinds for this purpose, or in fact in all cases, with perhaps a few additions, are *Black Hamburg*, No. 1, *Zinfandel*, black, *Black Prince*, *Chasselas Fontainebleau*, whitish ambre, (No. 1,) *White Frontignau*, amber, and *Syrian*, whitish green.

THE FORCING HOUSE OR WARM GRAPERY

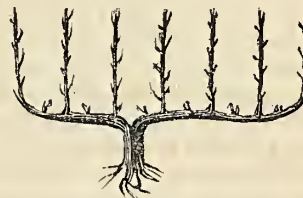
is artificially heated, and is intended for producing grapes earlier in the season than the cold grapery will admit of. It is a more expensive affair, requiring much skill and close attention, with full directions for construction. It is fully described in my "Grape Growers Guide," as are also graperies in general.

Much ado has been made about the preparation of beds or borders in which to grow the exotic kinds, and the most disgusting material, such as dead horses, oxen, hogs, and other animals, have been introduced into these beds. Common sense alone should convince us how unnatural is such a conglomerate mass for the healthy growth of the vines. The fact is, nothing of the kind is required, even for the most vigorous growth of any of the sorts. There is reason in all things, not excepting the cultivation of the grape. If you have a poor base, make use of a liberal supply of barnyard manure, and if the soil is deficient of lime, give a good supply, or add broken bones, if they can be had cheaply, which is still better, as they contain the same material, with extra fertilizing properties, not soon exhausted. If the soil is retentive of moisture, or holds the bottom water, drain it thoroughly, and with after good treatment success will be certain.

HINTS FOR THE MONTH.

If vines are to be planted this season, have

everything ready by the breaking up of frost, conveying to the spot any manure that will be wanted, while the ground is hard. Do not leave this until you are pressed by other work. The same applies also to existing plantations, if not already done. The manure should be forked in old borders, or applied as a mulch without delay. Pruning should be commenced at once, and ought to be finished before the month is out, unless the weather remain very severe. If so, defer it, but do not delay unnecessarily. In cutting, leave *two or three buds* of last year's growth, and if the wood has been left crowded, cut out all the superfluous, weak, or unripened shoots. Endeavor to have clean, healthy, and strong wood left, so that each branch may be laid in, and loosely tied, eighteen inches apart, according to the form of trellis.



The above cut represents one form of training, with the upright bearing branches for the present year, and the spurs or buds for producing new wood for next year's crop. The bearing branches are to be cut out each Fall, leaving one or two buds for future growth.

If the vines are merely to be staked, as is now mostly done in vineyard culture, one, or at most two of the best canes, may be cut down to three feet, and the others to two buds from the bottom.



The former are for bearing, and should be neatly but loosely tied to an upright stake; and the latter is for making new canes for another season's fruiting. Those who understand cultivating under glass, doubtless pruned last Fall, and the same applies to the cold grapery, where the vines were probably taken down from the roof in the fall, and covered with straw

or mats; but if these were neglected, prune immediately, using care to leave the buds as described above. Every one should learn to prune a grapevine, even if he does not practice it, that we may have less cutting and shaving, thereby losing a crop, which is so often the case. Where a trellis is not already covered with vines, and further extension is desirable, the principal canes may be pruned according to the vigor of growth. If very strong, they may be left six feet in length, and so down to two feet. These remarks apply in like manner to planted vines during their after growth.



Prepare cuttings of native varieties containing four or five buds in length. Make a clean cut immediately beneath the lower bud, but leave some two inches of wood above the upper one. These should be made now, if they were not prepared when the vines were pruned in the fall. Tie them up in neat bundles, and bury them, with the exception of their upper end, in sand in the cellar until the time of planting in the spring. The soil should be well plowed or spaded, and if trenched, so much the better. If soaked for a few days previous to planting, the buds will swell, and success be more certain. Plant in rows three feet apart, and about one foot distant in the row

Vines can also be propagated very readily, and with more certainty of success, by layering during the summer the wood of the previous, or even the present year, which will readily take root and form bearing vines in two years.



The best method of propagating the exotics is by inserting single buds, with a small portion of wood attached, as seen in the cut, into a box or pot filled with light and friable soil. Where there is the convenience of a greenhouse, or a glass frame, these will strike or take root very readily; but generally, it is better to purchase plants from some reliable nurseryman, who will furnish good healthy one year old roots, which are always the best, for about fifty cents each. See that he is a responsible person, or you may get other sorts than those you bargain for.

In those houses where forcing has been commenced, great care will now be necessary. If the vines are so far advanced as to be expanding their leaves, the temperature should in no case fall below 55 degrees, even at midnight. Where forcing is just commencing, 60 degrees is quite enough, with a rise on cloudy days to 70 degrees, or with sunshine, 85 degrees. Sharp frosty winds at any time must be avoided, but sufficient air admitted by the top ventilators to lower the heat. To assist in maintaining a proper temperature and a humid atmosphere, it will be found useful to dampen the bottom and sides of the house with the syringe, the moisture from which, feeds the young leaves, and prevents them from wilting. Maintain this humidity by evaporating pans filled with water, and syringing over head in the evening until the flowers begin to expand. During blossoming, the air may be allowed to become dryer, and the bunches should be shaken each morning after sunrise to distribute the pollen of the flowers, and ensure perfect fertilization. The beginning of this month is a good time to commence forcing, so as to have ripe fruit about the first of July. If the vines have not been already cleaned, do it without delay, by removing all the loose bark, particularly about the spurs and buds, when they may be washed over with the following mixture: Tobacco, 1 lb; whale oil soap, 1 lb; sulphur, 3 lbs; nux vomica, 1 ounce, upon which pour three gallons of hot water. The object of this cleaning is to destroy insects, which are sometimes very troublesome in the forcing house. Syringe or sprinkle the whole house thoroughly each day, including the vines also, preserving the temperature during the first ten days at 40 to 45 degrees at night, gradually increasing to 50 degrees by the middle, and 55 degrees by the latter part of the month.

The cold graperly will only require, at present, to be freely ventilated at all favorable opportunities, when the temperature is above the freezing point, but kept closed in severe weather.

SMALL GARDENS.

[Extracts from a business letter.]

... What you say in relation to the profits of a small garden is very true. I have in this city, (Roxbury, Mass.,) about one-third of an acre adjoining my house, well set with fruit trees of all varieties. I have more than fifty pear trees, all of which are doing finely. One Bartlett this year yielded five and a half bushels of pears, worth \$4 a bushel. A Bonne de Jersey, only six years of age, gave a bushel of beautiful pears, worth at least \$6. For the past three years, I have had one hundred boxes of strawberries each year, and in addition, this year I have raised fifty boxes of raspberries, and twenty-five of blackberries. I also raise my currants and cherries and all the vegetables for my family, with the

exception of corn and potatoes. I had this year about two bushels of grapes, and my grape vines are doing well, and in a few years will supply a great many mouths with a delicious fruit. I expend annually about twenty-five dollars for manure, and do my own garden work before eight o'clock in the morning. It would cost at least \$200 per annum to purchase in the market what I gather from my little garden, but the advantage to health of body and mind, and energy of action, is worth far more than any other species of profit.

JAMES RITCHIE.

PRUNING TREES.

There is a great diversity of opinion and practice in the matter of tree-pruning. Some persons hold that a tree, like a willful child, needs constant and severe discipline; and so they go about continually cutting and hacking, confident that, if pruning is a good thing at all, the more of it the better. Others think that Nature, from her long experience in the business, understands the best way of growing trees, and so they leave their orchards to shift for themselves. But here, as in most cases, the truth lies between the extremes.

Ornamental trees should be seldom and slightly pruned. When planted by the roadside, or in pastures, their lower limbs must be cut off; and in small pleasure-grounds, it may be necessary to trim them up, in order to economize room; but wherever the circumstances will allow, they should be left to grow in their completeness, from the ground to their apex. Least of all, should evergreens be mutilated by the ax or saw. Their geometrical regularity is their chief beauty.

With fruit trees, the case is different. They are cultivated for fruit more than for shade or beauty of form. They must feel the saw and knife. Unless we can be satisfied with the fruit of the wild seedling, we must bud or engraft, and completely change the character of the tree.

When a young tree is taken from the nursery, it is often tall and slender, bending under its own weight. If now it is cut back one-third or one-half its length, its lower buds will start into growth, the descending sap will deposit new layers of woody fibre on the trunk, and add so much to its size and strength, that it will henceforth stand erect, and become a well-proportioned tree.

In the process of transplanting, it is impossible to avoid some mutilation of the roots of trees. As this work is commonly done, full one-half of the roots are cut or mangled. The balance between the roots and branches must then be restored by cutting back the top proportionate to the loss of the roots. When large branches are taken off, the wounds should be covered with grafting-wax, or gum-shellac mixed with alcohol to the consistency of cream. Nor will the careful gardener neglect to pare off, with a sharp knife, the rough edges of the bruised roots so as to expedite their healing.

A young tree sometimes becomes stunted: its bark seems hide-bound, its sap-vessels clogged, its buds dormant. Cut it to the

quick, and it will start into new life; especially if, to pruning, you add the scriptural treatment of the roots of the barren fig-tree, it will grow as if striving to make up for lost time.

A tree sometimes makes a vigorous growth of wood, but produces no fruit. Shall we let Nature take her course, and let the tree cumber the ground? Common sense says no. Common Sense once noticed that such a fruitless tree, having been accidentally browsed during the summer, became afterward fruitful. So she took the hint, and began to pinch off the ends of growing branches which produced wood only, and they mostly began to bear fruit. Pruning a tree when in its dormant state generally promotes a more vigorous growth of wood: pruning when in its active state checks the rampant flow of sap to the extremities, and sets it about the more useful work of making fruit-spurs and branches.

A barren tree is sometimes rendered productive by pruning its roots. Transplant an arbor-vitæ tree of any size, and you will find, in the following summer, that its branches will be covered with seed-vessels. And why? Because you have cut its roots, and checked the flow of sap. Transplant a pear tree old enough to bear fruit, and it will show an increased tendency to fruitfulness. "When a tree is deprived of a certain portion of its roots, its supply of food from the soil is lessened, growth is checked, the sap moves slowly in its channels, is better elaborated in the leaves, and the young branches and buds begin to assume a fruitful character."

Ill-shaped trees require pruning. If the top branches incline to grow in a dense mass, they should be thinned out. Cross branches should be removed. Branches shooting out awkwardly on one side should be taken off, and the tree kept well balanced. Why should not the orchardist show some taste in his department, as well as the landscape-gardener in his?

Pruning should begin with the tree when quite young: then its shape can be controlled without removing any large branches and so mutilating and weakening the tree. But whenever it is performed, let it be done wisely, and the fruit will amply compensate for the time and labor.

FARMERS' BOYS.

Out in every tempest, out in every gale,
Buffeting the weather, wind and storm and hail;
In the meadow mowing, in the shady wood,
Has no lines and furrows wrought by evil hours,
Every fitting moment each skillful hand employs—
Bless me! were there ever things like farmers' boys!

Though the palm be callous holding fast the plow,
The round cheek is ruddy, and the open brow
Has no lines and furrows wrought by evil hours,
For that heart keeps wholesome, trained in nature's bowers,
Healthy, hearty pastime the spirit never cloy;
Heaven bless the manly, honest farmers' boys!

At the merry husking, at the apple bee,
How their hearts run over with genial harmless glee,
How the country maidens blush with conscious bliss
At the love word whispered with a parting kiss;
Then the winter evenings with their social joys!
Bless me! they are pleasant, spent with farmers' boys.

[Merry's Museum]

A RETORT IN THREE WORDS.—A clerk in our office wrote out the following item and placed it upon our desk. It is good and new to us.—Ed. Agriculturist.

Voltaire once met Pierre, his mortal enemy, in debate, at an evening party. He immediately informed the hostess that he should leave instantly unless Pierre should agree to speak not more than three words throughout the evening.

The latter consented, and remained silent under the abuse of his antagonist. As the company were about separating, Voltaire remarked in his conversation that upon a certain occasion, being quite famished, he had eaten more oysters than Sampson slew of the Philistines. "*Cum eodem instrumento*" (with the same instrument) immediately retorted Pierre

ABOUT BOOKS AND BOOK NOTICES.

As this is not a literary journal, we make no pretensions to keeping its readers posted on literary topics. However pleasing or profitable it might be to fill a long row of book shelves with newly-bound "editor's copies" of the hundreds of books annually published, at the expense only of a column of random off-hand "notices," we do not consider ourselves at liberty to thus appropriate valuable space which should be occupied with instructive articles on subjects immediately connected with soil culture. When any new work is issued which comes within our special department, if it be of such a character that we can, after a careful examination, recommend our readers generally to purchase it, we shall, as a matter of interest to them, speak of it in appropriate terms.

Nothing furnishes a more striking evidence of the general interest awakened in reference to improvements in agriculture, horticulture, and kindred branches of labor, than the great number of elegant and even costly volumes on these topics now being written, published, purchased and read. Even the libraries of city residents, as well as of clergymen, and other professional men in the country generally, are coming to be considered incomplete without they embrace a series of works on agriculture. And these are not alone confined to the mere practical details of planting and harvesting crops, in the field, orchard or garden. The aesthetics of agriculture, so to speak, are receiving a greater share of attention than ever before.

We have before us a large and beautiful octavo volume of 550 pages, just published by John P. Jewett and Company, of Boston, which is really worthy of a place in every well-to-do farmer's library, and, indeed, in that of any other person. We copy the title-page.

THE RURAL POETRY OF THE ENGLISH LANGUAGE. Illustrating the Seasons and the Months of the Year—their Changes, Employments, Lessons and Pleasures, topically Paraphrased. With a Complete Index. By Joseph William Jenks, A.M., late Professor of Languages in the Urbana University, Ohio.

The work is very complete; the index to the topics and poems alone occupying over twenty pages. We will not attempt an analysis or detailed description, but advise all who can conveniently do so to become the purchaser of a copy. We have already passed many hours in perusing its pages, and expect to spend many more in the same manner. We would be loth to part with our copy at any price.

THE AMATEUR'S GUIDE AND FLOWER-GARDEN DIRECTORY; containing every Requisite Detail for the Successful Cultivation of the Flower Garden, &c.; to which is added, the Vegetable Garden Manual. By John T. C. Clark. Taylor & Maury, Washington, D.C. 1856. 12mo, pp. 158.

Amateurs are a growing class among us, and a good practical work, adapted to their wants, has long been a desideratum. Several works have been written to meet these wants, mostly by professional men, who have, as a general thing, very imperfect conceptions of the precise kind of knowledge needed by the amateur, or rather, perhaps, have been unfortunate in their mode of presenting it. Amateurs will welcome every well-meant endeavor to lessen the difficulties of their floral pursuits and enlarge their field of knowledge. Mr. Clark, who is an amateur, has embodied in the above volume the results of his own experience, with a view of benefiting others engaged in this delightful vocation.

IOWA AND MINNESOTA.—John P. Jewett & Co. have just issued two Hand Books, one for Iowa and one for Minnesota, both by Nathan H. Parker, Esq. Both have well executed maps. An advertisement is inserted at the close of each book, indicating that the author is prepared to act as agent for purchasing lands, and for other business in these territories. This detracts somewhat from the value of the books, as no person thus interested can be supposed to wield a wholly impartial pen. Still, with these drawbacks the works contain much valuable information, and may be consulted with profit by those seeking homes in either of those territories.

CHINESE SUGAR-CANE.—The general interest awakened in regard to this new and promising plant has already called forth two books, which both treat upon this plant particularly and sugar-making generally. One is published by Jewett & Co. of Boston, and the other by C. M. Saxton & Co. of this city; the former edited by James F. C. Hyde, Esq. of Walnut Grove Nursery, Newtown Centre, Mass.; the latter by Chas. F. Stansbury, A. M., late Commissioner at the London Exhibition for the Industry of all Nations. That by Jewett & Co. was published nearly a month earlier than the one by Saxton & Co., which was delayed by a crowd of other books from

the same press. We make this statement in justice to the latter publishers, as we, by request, examined the manuscript some time before we heard of the design of Jewett & Co., to issue a similar work. We are, therefore, quite sure the books were conceived, written and published quite independent of each other, and not in a spirit of opposition. Either of the books may be obtained, post-paid, we believe, by remitting 25 cents to the respective publishers; and those who design to cultivate the plant extensively, or who desire to read beyond what may be found in this journal, will do well to secure a copy of one or both of these books.

NOTICES TO CORRESPONDENTS AND GLEANINGS.

Asparagus Culture.—We have received a communication from Sereno Wright upon this topic.

Sugarcane vs. Acidity of Temper.—Our fair friend from Wilmington, Mass., who wishes to know if the Sorghum is a corrective of sour temper, is respectfully informed that its cultivation by her sex will never fully solve the question. As for the other sex, they have so much of the article that needs correcting that we think it will take a sweeter remedy to meet their case. The seeds of the vegetable egg we shall plant with special care and look for the result with interest.

Grapes under Glass.—We have received a communication from J. E., of Fox Meadow, upon this topic, but the request to publish it verbatim forbids its insertion, as all communications, and even editorial articles, must "go through the mill." We edit the paper. The article contains valuable suggestions too, which we should be glad to give to our readers, were we at liberty to prune it of certain misapprehensions of the writer, which would be likely to discourage amateurs from venturing upon the cultivation of this delightful fruit.

Nothing is more common than for a gardener trained in the routine of professional gardening in Europe, to suppose there is but one way of doing a thing right, and that all the minute details of his art are essential to success in growing any fruit. It is unquestionably better for a gentleman with abundant means, and a large garden and graperies to employ a professional gardener to attend to his fruits and vegetables. We have no doubt that such a man would grow much handsomer grapes than an amateur in his first season of grape-growing. But we assure all our cultivators of less abundant means, and more leisure, that there is nothing terrific and impossible in the culture of grapes under glass, even to men without experience or professional training. Many things are possible to a Yankee accustomed to look after the causes of all phenomena, and to investigate for himself, that are not possible to men who are trained to do everything by rule. As fine grapes as we have ever seen, have been grown by gentlemen who have gained all their knowledge from books, and from their own observation. The experience of the most successful cultivators of this fruit is already upon record in convenient manuals, and there is no reason in the world why any ingenious amateur who is disposed, should not grow his own grapes.

If a man does not know how to grow anything in the garden, he should not attempt grapes under glass. But if he has ordinary skill and what the Yankees call "*gumption*," he may go ahead. His experiment may cost him something, but he will in the end succeed.

Turkish Flint Wheat and King Philip Corn.—P. S. F., of Delton, Wis., inquires for these seeds. They have been sent out from the Patent office, and he can probably procure them by personal application to his Congressmen, or to C. Mason, the Commissioner of Patents, at Washington, D. C. Most agricultural stores have the corn.

Sandy Soils.—Inaccessible to clay, are improved by the application of muck, or by the turning in of green crops, either clover or buckwheat. Any crop that will give a larger burden of stalk and leaves will answer. The clover should be turned in when in full bloom.

Tools Telling Tales.—Our friend, the Blacksmith, who says the tools which some of his customers bring to his shop for repairs, "tell tales of their owners," hits the nail on the head exactly. That old-fashioned plow, with dull nose, charges the owner with *dullness*; that thick heavy hoe cries out *heaviness* of mind. In some districts more strength of man and beast is still wasted in carrying heavy awkward tools, than in tilling the soil. The blacksmith sees this as he makes the sparks fly over his anvil. But his neighbors will have none of these new fangled tools. "It is like giving medicine to a sick boy." That is so, as 'Tim Bunker would say.

Wheat in Indiana.—Mr. A. J. Westervelt, writing from La Porte, Ind., Jan. 10, says: "The winter so far has been very hard upon winter wheat, and fears are entertained that it has been badly injured."

Touching Milk Cellars.—A. G., of Hartford, is informed that milk rooms are better made above ground but can be made in cellars, with proper attention to ventilation. The windows should be furnished with gauze

wire to keep out all flies and dust, the glass being removed in summer. Too many windows make the cellar too warm. The room would be better with lining.

Fences, Measuring Hay, Cattle, &c.—A correspondent makes the following suggestions and inquiries:

I have a substantial fence, which is built thus: The foundation is a wall three and a half feet wide on the ground, into which is placed posts with three rail holes in the top half of them, which are set on a flat stone that lays on the ground in the middle of the wall, viz.: first set one post and lay the stones around it, then put in the rails and set the next. Round the wall up to the lower rail, (which should be 2½ from the ground,) so that the fence will be supported on each side by the last two rows of stones, which are some six inches through. The advantage of this is to support the top part of the fence. I have a fence of this kind which has been built over twenty years on a hard soil, and it is as good as new.

Will not cows do better if they are stabled all day in cold weather here, (which is in lat. 44°,) or will it injure their health?

Can you, or some of your correspondents, give me a good rule for measuring hay in the mow, to save weighing?

How many of your readers settle up once a year, and know what they have made or lost?

I am much gratified to get the paper the first day of the month, and wish other journals were as prompt as yours.

Cows and other cattle are much better off in a tight, well ventilated stable, this severe winter weather, than any where else; but should be allowed to sun themselves out-doors on pleasant days.

Ten cubic yards to the ton is one measure for hay in the mows. Most farmers measure it as they cart it in the barn by the wagon-load, i. e.: they have one load weighed, and then calculate the others by that, usually allowing from 15 to 25 per cent. for shrinkage in the mow.

Carpenter's White Peach.—Our recent commendatory notice of this variety has called forth quite a number of inquiries for it. We learn from the gentleman who is propagating it, Mr. Gustin, of N. J., that no trees will be for sale before next autumn, and that they will be duly advertised when ready for market.

Ice-Houses.—A stratum of cold air between the walls is said to be a better non-conductor than tan or saw-dust, by J. C. Jackson. This may be so. Is it as easily kept in place? Tan and saw-dust will stay where you put them. The cold air might walk out in the dog-days at a very small hole, when you most wanted it at home.

Early Sweet Corn.—We have cultivated a nameless variety about ten days earlier than the common kind. We presume the seedsman at Albany can supply our correspondent or others. It is small, but very good. Stowells we have cultivated for five years, and consider it the best late market variety.

Lice on Cattle.—Are better forestalled by generous feeding, and warm stabling in winter, than routed after they have taken possession. But if once in the hair, we recommend first to stop spare diet; 2d to anoint with lard or other unctuous matter, 3d, to use the card frequently.

The Mammoth Mustard.—Sent us from Glen Falls, we are inclined to think from the looks of the seed is simply black mustard improved by cultivation.

Grape Culture.—Allen and Chorlton have both written excellent works on grape culture. They may be had at most of the Agricultural stores. See business notices.

Botany.—We have received a very well-written article on this general topic from a lady correspondent, and regret that it does not come within the scope of our journal. We have no miscellaneous department, and no room for abstract generalities of any kind. We greatly desire to get a little more into the concrete, the pith of matters, and would like to take all our readers with us. We are alive to good cooking, nice washing, and good house-keeping, in the farmers' home, and to fine roses, pinks and asters, in his garden. Brief, pithy items, of half a page or less, written upon one side of the sheet, carefully punctuated, upon these and kindred topics, telling just how the thing is done, and good recipes, are what we desire. A fig for the immortal Linnæus, and a profound regard for the woman who will teach her sex how to make a farmer's home more comfortable, more attractive and happy. Our columns are open to our lady readers on these topics. We shall be glad to hear from the writer again, on themes legitimate to our purpose. She is our old school-mate.

Cure for Toothache.—What do you guess it is, reader? Cloves, prussic acid, creosote, cold iron? No such thing. It is simply "*to cut your nails on Friday!*" The sympathizing correspondent who sends us this remedy for the afflicted readers of our journal, manifests an undue apprehension of being laughed at for the simplicity of his remedy. This apprehension is entirely groundless. All great remedies are simple, as the learned faculty of medicine perfectly understand. The only fault we have to find with the communication is, the fact that the philosophy of this safe and easy remedy is not given. As this is wanting, we shall have to supply it. We have no

doubt that the remedy is just as good for headache, earache, and all the aches that pertain to the cranium. Aches in general are caused by an excess of electricity in the system. The way the cure works is this. You see, as Tim Bunker would say, there is a set of small-sized lightning-rods running between the head and finger-nails, sometimes called nerves. The cutting of the nails opens a safety-valve for the excess of electricity, and as it works stops the pain easy. Our correspondent says that "in case of cold or inflammation, the remedy sometimes fails." This only shows that there is too much electricity on, and we would suggest that the cutting of the toe-nails in addition would give immediate relief in the most desperate cases. There is nothing like a little philosophy to explain the way things work.

Agricultural Medals—For the distinguished benefactors of the race, who have introduced new esculents, is a very excellent suggestion from our Kentucky correspondent. Like too many good things in this world, it is too good to be realized at present. We are obliged to him for his commendations of our course in exposing humbugs.

Salt for Packing Eggs—Our friend W. B. C. complains of this remedy. The process of decay had already begun in those that spoiled. The salt, however dry apparently, was so moist as to penetrate the shell of the egg and salt its contents. It is not a safe remedy unless one has experience in using it. Eggs are the best kept in the hen, and the sooner they are used after being deposited in the nest, the better. A good hen-house will furnish fresh eggs even in winter.

Soil for Roses—Ours flourish admirably in a soil with a large proportion of sand. The base was coarse gravel, with a small admixture of yellow loam. The border is well covered with roses every fall.

Beardless Barley—We have received a few heads of this new grain from S. W. Briggs, West Macedon, N. Y. It professes to be a new barley, from the Himalaya mountains. We deem it of interest enough to our readers to say that Mr. Briggs will send one head of it gratis to any cultivator who will direct to him a stamped envelope, with the applicant's address.

The Bearing Year of Apple Trees—This can be changed by generous cultivation. We have seen an inveterate bearer in alternate years change its habit, by plowing and planting with potatoes. The stirring of the soil, and the manure furnished new plant food enough to make the tree bear two years in succession. The land was seeded again, and the tree returned to its former habits. We suppose habit, and the natural constitution of the tree, and the condition of the soil, all have something to do with this fact. We think, in young trees of most varieties, it can be remedied, and that it will pay to do it. We are trying the experiment, and expect to succeed with an inveterate alternate grower.

Improvement of poor land—A friend inquires how this is to be done, where stable manure and lime are difficult to procure. In his circumstances, which he has too briefly described, we would recommend sowing clover, and turning in the crop when in full bloom. If he can sow plaster with it, it will be better.

Japan Pea is yet upon trial. The reports concerning it are conflicting. We cannot recommend it at present.

Wyandott Corn—A contributor records his experience in this article as a failure. We think it not worth cultivating in the Northern States.

Change in the color of Dahlias—These colors are not produced as our correspondent seems to suppose, by any treatment of a particular variety, but by hybridizing, or encouraging occasional sports,—to originate new varieties. A variety once originated is fast in its colors.

Stunted Pear Trees—M. H. Fisk, of Paducah, Ky., inquires "if young trees will come from the roots of an old pear tree, and if this will affect their growth, or fruitfulness." The roots of some varieties of the pear tree sucker very freely, and if taken up and set out will make trees. They are not considered equal to seedlings, and we do not advise their cultivation. But we have three trees upon our grounds, that we know to be suckers. They are grafted, and as they made wood four feet in length last season, we think sucker trees will not be wanting in grow. h. All three have been free growers. It is not yet time for them to fruit. We look for it with confidence in due time. We suspect that the trouble with our friend's trees is not in their origin, but in their treatment. It looks as if they stood in sward ground, and were stunted. Plant all the ground around the trees for a rod on every side with potatoes, spade 12 inches deep, where you can do so without injuring the roots, manure the whole space heavily with stable manure, use a bushel of ashes under each tree annually, spreading it over the whole planted patch, wash the trunks and branches as far as you can reach, with strong soap suds, three times a year, and we think they will take a fresh start. Every

Fall we would put six or eight bushels of coarse stable manure around each tree. Possibly the trees are lousy. If so, they should be washed all over with the suds with a good brush. If they start, under this treatment, they should be grafted upon the new wood.

Imported Trees arriving in Winter—If frozen and thawed in the open air, the roots will lose their vitality. We would put them in a cellar, and cover the roots with earth immediately.

Dwarf Pear Trees—May be planted in rows, twelve feet apart, and eight feet in the row. If planted in this way, the ground should be kept under cultivation, and manure applied every fall. They need high living and constant attention, in order to furnish fine fruit. Stuck out in green sward, and left to themselves, you might as well put out so many white birch bean-poles. We prefer to plant them between standards, two dwarfs to one standard. Well cared for, they will yield fruit early and pay.

Best Varieties of Peas for Market—We cannot undertake to name them, for what might be best for one location might not be the best for another. The Prince Albert and Early Charlton, Emperor, Imperial and Kent are excellent early varieties, and have always done well with us. The Champion of England is about a week later, and is without exception the richest and most prolific pea we have ever cultivated. These are to be had at the seed stores, and if seedsmen do not understand their business, we cannot undertake to advertise for them in our editorial columns.

A One Dollar Receipt for Work made Easy—For one dollar, the holder of this valuable secret will instruct all the greenhorns how "to raise all kinds of farm produce in large quantities without spreading manure, or much labor, and grass in abundance in the woods. We think people must live in the woods who are to be taken in by this sell. We shall get rid of labor and the necessity of using manure in good husbandry, when we get rid of sin. "The quicker farmers wake up to these facts the better," as Timothy Bunker, Esq. would say.

Farmers' Clubs—Our friend Underhill, of Croton Point, grape famous, bears his testimony to the value of these associations. In a private note he says: These associations, when properly conducted, have proved very useful. I have been interested in the formation of several in the county of Westchester within the past seven years, and I believe no one who has been a member of one of them, for any length of time, will be slow in admitting that they have given an impetus to agricultural improvement wherever they have been established.

Divers other matters are on hand for advice, but we must defer them until our next number. Articles on the cultivation of onions and tobacco, ox-yokes, over-feeding of plants, &c., will appear in March.

N. B.—We invite hints, inquiries, and communications from any and all of our readers.

Never write on more than one side of the sheet, and let the lines be wide apart for corrections and additions.

The Peabody Strawberry.

We are indebted to Mr. Peabody for a beautiful colored drawing of his new seedling, which he is now prepared to send out as soon as he shall have obtained one thousand subscribers at five dollars for a dozen plants; and he states that no plants will be sent out till that number have subscribed. Each subscriber will receive a colored drawing upon entering his name, and will be duly notified when the list is complete and the plants ready for delivery. We have put the drawing up in our office for the inspection of all who may wish to see it. Mr. Peabody claims for his seedling the great merit of being one of the best ever raised. Last spring he sent some of the fruit to J. M. Thorburn & Co., New York, and we had the gratification of testing them just after their arrival. This must have been at least a week after they were picked, and yet they were in good condition: a sufficient testimony of what they will endure in the way of transportation. The following is our description of the fruit, copied verbatim from notes made at the time: "Berries generally large; smaller ones somewhat cone-shaped, larger ones flattened; neck long; seed red, and somewhat prominent; calyx closed; peduncle very long; color crimson; flesh red, firm, and agreeably sub-acid, with a fine aromatic flavor. A handsome fruit."

Lodi Pondrette Co.

This company considering themselves aggrieved by recent articles in this journal, sent us a letter in reply. The letter partakes rather too much of a business character to be admitted otherwise than an advertisement, and they have accordingly inserted it as a paid business notice.

GOOD READING—Those wishing to furnish their libraries with good substantial reading will give heed to the advertisement of the Eclectic Magazine, headed "Emperor of Russia." We have known and valued this magazine for years past.

Head on Manures, Draining, &c.

We ask particular attention to the series of articles on manures, the second of which will be found on another page. The plan to be pursued hereafter will be found at the close of the article. In order to make the subject as complete as may be, we have been somewhat lengthy in the introductory chapters. The future articles will be more practical. We hope, however, that every reader of the *Agriculturist* will carefully study this series, whatever else may be passed over. It is important to successful practice that one start with right views. If all will read and understand these articles, it will save us much needless repetition hereafter.

Read the Market Review.

On our last page will be found a very full, complete and labored review of transactions in produce. These are prepared with great care, and will be valuable not only in the present, but for reference in future years.

Printing the "Notices."

An associate says: "Why not overhaul that drawer and print, now and then, a page or two of extracts from other journals, and letters from subscribers? Each reader will be gratified to see how highly the *Agriculturist* is esteemed by others." We cannot spare the room. We are very thankful for the many kind words of commendation sent to us by our readers, and printed by our contemporaries. Each one will please to consider that there are multitudes of others who think just about as he (or she) does of this paper. Will not that do?

Who Writes the Articles.

Hitherto we have added "Ed." to our editorial articles, whether written by myself or any one of our dozen associates residing in various parts of the country. Hereafter we shall discontinue this custom, wishing it to be understood that all articles in this journal are original editorials, unless otherwise marked. Our worthy associates, equally with the resident editor, are interested in sustaining the high and useful character of the *Agriculturist*. As the conducting editor, and the one more immediately interested, both pecuniarily and otherwise, we of course sustain a greater degree of responsibility, and must needs answer to the public for each article that appears.

A Fancy Head Wanted, &c.

Several kind friends have suggested that we might improve the attractiveness of the *Agriculturist* by having an illustrated head upon the first page. We must beg to differ with them. Nothing seems to us so appropriate as our plain letters, which gives the name of the paper, its design, terms, location, date, &c. This is all that is necessary. More than this would not be in keeping with the design of this journal. If we must have a fancy head, we should want a new one for every number. But in following our own taste we do not reflect upon that of others. Let every one follow his own liking—*De gustibus non disputandum est.*

Clubs.

Additions may always be made to subscribers' clubs at the price paid by the first members, if the new names added commence with the beginning of the year.

Small Type.

There is so much to be said every month, that even with 22 pages of reading matter we are compelled to resort to smaller type in a part of the paper.

TWO APOLOGIES.

FIRST—We intended to issue, and so far have issued, each number at least as early as the first day of the month of date. This time we are behind 6 days, for the reason that our February stock of white paper was used in printing an edition for January, twice as large as we supposed would be wanted. The paper for this month was made in Massachusetts, and on the way here early in January, but was caught in the great storm, which stopped all freight on Railroads. This will not be likely to occur again.

SECOND—We looked for a large increase of business with the opening of the year, and provided for it, but with only a country business experience, we were wholly unprepared for such an increase as it has been our good fortune to meet with. The consequence has been that we could scarcely keep up with business—let alone editing. We are getting more clerks into the harness, and now we will put just about five times as much editorial force upon these columns. See if we don't!

NEXT MONTH.

We have taken the liberty to say 'considerable' about ourselves in this number. The space thus occupied shall be given to our readers hereafter. February is a pretty dull month to talk about out-door work any way. Next month the Spring Work will 'begin to begin,' and we'll try and get the paper ready for it.

Business Notices.

Forty Cents a Line.

NEW CHINESE NORTHERN SUGAR-CANE SEED.

By precise calculation, we ascertain the *smallest* quantity of Seed necessary for planting an acre in hills, the same distance apart as Indian Corn, ten seeds to the hill, is two pounds, if the seed is well cleaned. A quart of good seed weighs about one pound.

Our 12½ cent packages (25 cents prepaid by mail) contain one ounce of seed each. J. M. THORBURN & CO., 15 John-st., New-York.

CHINESE SUGAR CANE.

I am expecting an additional and full supply of genuine Chinese Sugar Cane Seed, from France, which will be ready for the Spring trade at fair prices.

R. L. ALLEN, 169 Water-st., New-York.

"DISASTROUS EXPERIMENTS."

NEW YORK, Jan. 8, 1857.

To the Editor of the American Agriculturist:

SIR: In answer to the *disastrous experiments* of an "Old Plow-boy," in Bucks County, Penn., made with one barrel of our Poudrette, and published in your January number, we enclose a letter from a Bucks County farmer, who has used thirty barrels a year since 1851, and by referring to our books, we find that for the last four or five years we have sold in Bucks County more than 500 barrels of Poudrette, with a demand for more, which we could not supply. So much for experimenting on a small scale. We make and sell annually (40,000) forty thousand barrels of Poudrette. Two-thirds of this number of barrels is sold to customers of from one to fifteen years standing on our books, and if only one barrel has *missed* five during this year we are perfectly satisfied.

Respectfully yours, for the Lodi Man'g Co., JAMES R. DEY.

MORRISVILLE, 5 M. 4th, 1856.

ESTEEMED FRIEND: The Tafau for wheat or grass is better calculated than phosphate of lime, and I am fully satisfied that it is a better manure than phosphate of lime, and greatly superior to Guano on our light alluvial soil. My grass where the Tafau was sown last fall a year ago on wheat, is thicker and better than heretofore, which is full proof of its being a first-rate manure. I used a small quantity last year on rutabaga turnips, and they grew most vigorously. I never could succeed before, although I applied hen manure, ashes, &c., but always failed; this is another confirmation that there is no deception in its quality. I have used Poudrette every year since 1851, and from one to one and a half barrels will insure one third more corn to the acre; and last year I put two barrels to the acre, and I think, speaking fairly, it doubled my crop, and several used it in my neighborhood, and they could see the difference visibly.

Thy assured friend,

WILLIAM BURTON,

Of Penns Manor, Bucks County, Penn.

NOTICE TO FARMERS.

We would call the attention of Agriculturists in every part of the country to the fact that the new "PATENT ANIMAL FERTILIZER," which was some time since brought to notice, is now ready for the market. The manufacturer having completed his extensive works for its production, a specimen of the article has been carefully analyzed and examined by a large number of our principal chemists and other scientific gentlemen in whose judgment the public have the most implicit confidence, and we have no hesitation in recommending its free use by our farmers in preference to the Peruvian Guano.

Orders addressed to JOHN A. SCHWABER, room No. 11 Nassau Bank Building, New-York, will meet with prompt attention.

Keep the "Files" Perfect.

In after years you will value these numbers. With a little care they can be saved sufficiently neat and clean to form a beautiful volume at the end of every year. If the Mail loses any number, by all means send for another. The U. S. Mail Department is very poor—every year it fails to pay its expenses—and we are 'rich enough' to make up its losses and deprivations, so far as our subscribers are concerned, and will most cheerfully do it. We now employ first-class mail clerks, who never 'miss fire.' If Uncle Sam's great gun don't carry the bullet (billet) 'clean' to you, let said clerks know it through us, and they will load and fire again, at once.

The Advertisements

Are encroaching upon the reading columns—we want only about two pages of them, and if raising the price does not keep them within bounds we must cut off all that come in after the space is full. "First come—first served." Advertisers please N. B.

BACK VOLUMES AND BACK NUMBERS.

A very few complete sets of Volume XV, have been secured which may be had bound for \$175, and unbound, \$125.

Volumes XII, XIII and XIV, can be had for \$150 each, bound, or \$1 unbound. Postage on unbound volumes 26 cents each. Bound volumes, not available.

Volumes XII, XIII, XIV and XV, uniformly bound, will be furnished for \$6. The same unbound, \$4.

We have sundry odd numbers of Volumes, XI to XIV, These will be sent free to those wishing to complete their volumes for binding.

Of Volume XV, we have several copies of October, November, December, 1855, May, June, September, October and December, 1856, (Nos. 1, 2, 3, 8, 9, 12, 13 and 15, of volume XV) and a very few of July (No. 10.) Any one of these will be sent to subscribers post-paid, on the receipt of three 3-cent stamps.

We shall be very glad to get a few perfect copies of the issues for January, February, March, April and August, 1856. For any one of these numbers we will pay 15 cents cash.

Stereotyped.

The *Agriculturist* is now stereotyped, and back numbers can always be supplied from the beginning of the present volume (XVI).

Advertisements.

TERMS—(invariably cash before insertion):

Twenty-five cents per line (of ten words) for each insertion. No advertisement taken at less than one dollar. By the column or half column, \$30 per column for the first insertion and \$25 for each subsequent insertion. Advertisements are estimated according to amount of space occupied. Business Notices Forty cents a line. Advertisements to be sure of insertion must be received at latest by the 20th of the preceding month.

WANTED—ON THE FIRST OF APRIL next, a Manager accustomed to the care of stock, to take charge of a large farm, situated in a healthy district, within eight miles of Baltimore city. J. HOWARD MCHENRY, 121-122n156 Pikesville, Baltimore Co., Md.

AGRICULTURAL ENGINEERS.—The undersigned, having long experience as Engineers, will pay attention to those branches of their profession connected with Agriculture, viz: Land Surveying and Mapping, the arrangement and construction of houses and farm buildings.—DRAINING and IRRIGATION in all their branches. Also, the adaptation of all machinery necessary for agricultural purposes, including steam engines, wind and water mills, water rams, force pumps, &c. Materials and machinery purchased on commission. SHIPMAN & HAMMOND, 111-121n48 No. 63 Trinity Buildings, 111 Broadway, N. Y.



ISABELLA AND CATAWBA GRAPE

VINES, of proper age for forming Vineyards, cultivated from, and containing all the good qualities which the most improved cultivation for over sixteen years has conferred on the Croton Point Vineyards, are offered to the public. Those who may purchase will receive such instructions for four years, as will enable them to cultivate the Grape with entire success provided their locality is not too far north.

All communications addressed to R. T. UNDERHILL, M. D., New-York, or Croton Point, Westchester County, N. Y., will receive attention.

The additional experience of the four past seasons gives him full assurance that, by improved cultivation, pruning, &c., a crop of good fruit can be obtained every year, in most of the Northern, all of the Middle, Western and Southern States.

N. B.—To those who take sufficient to plant six acres, as he directs, he will, when they commence bearing, furnish the owner with one of his Vinedressers, whom he has instructed in his mode of cultivation, and he will do all the labor of the vineyard, and insure the most perfect success. The only charge, a reasonable compensation for the labor.

Also, APPLE-QUINCE TREES, (which are sometimes called the Orange Quince,) for sale as above. R. T. U. 121-123n170

TO COTTON PLANTERS.

THE COTTON PLANTER'S MANUAL:

Being a Compilation of Facts from the Best Authorities ON THE CULTURE OF COTTON, Its Natural History, Chemical Analysis, Trade and Consumption, AND EMBRACING A HISTORY OF COTTON AND THE COTTON GIN. By J. A. TURNER. Price \$1.

Sent free of Postage on Receipt of Price.

GARDENING FOR THE SOUTH.

By W. N. White, of Athens, Georgia. A most complete manual for every department of Horticulture, embracing the Vegetable Garden, the Fruit Garden, the Flower Garden, and the Pleasure Grounds, adapted particularly to the Southern States. Price \$1 25.

To be obtained of all Booksellers, or sent by us prepaid to any part of the Union on receipt of price. C. M. SAXTON & CO., Agricultural Book Publishers, 121-122n169 140 Fulton-street, New-York.

WILLARD FELT, No. 14 Maiden-lane, Manufacturer of Blank Books, and Importer and Dealer in PAPER and STATIONERY of every description. Particular attention paid to... 118-108

FIELD AND GARDEN SEEDS.

A FULL ASSORTMENT OF THE

choicest Foreign and Domestic Field and Garden Seeds raised expressly for my trade. All genuine and of the best kinds. For sale wholesale and retail.

SORGHUM SACCHARATUM, or CHINESE SUGAR-CANE, both of foreign and home growth, put up in dollar packages, with printed directions for planting. Also, by the pound or in larger quantities.

KING PHILLIP, or BROWN CORN. WYANDOTE CORN.

LARGE SOUTHERN CORN. WHITE and YELLOW FLINT CORN.

DARLINGS EXTRA EARLY SWEET CORN. EARLY TUSCARORA CORN.

EVERGREEN, DUTTON, POP and other varieties. POLAND AND OTHER CHOICE SEED OATS—The best in market.

SPRING BARLEY—Extra choice quality. SPRING RYE.

SPRING WHEAT—Fife, Tea, Golden Drop, Canada Club and Black Sea.

POTATOES—Prince Albert, very superior. " Dikeman.

" Early June. " Ash Leaf Kidney, Mercer, and other choice varieties.

SPRING AND WINTER VETCHES, BROOM CORN, PEAS of every choice variety, BEANS ditto.

GRASS SEEDS—Timothy, Red Top, Ray, Orchard, Blue, Sweet Scented Vernal, Foul Meadow, &c.

CLOVER.—Large and Medium Red, Dutch White, Lucern or Alfalfa, Alsike, Crimson, Sanfoin, Sweet Scented.

MILLET—Extra clean for sowing. FLOWER SEED and HERBS—All new and valuable varieties.

RED AND YELLOW ONION SETS—Top or Button Onions, Potato Onions.

APPLE, PEAR AND QUINCE SEEDS, PEACH PITTS, &c., &c.

OSAGE ORANGE.—Yellow and Honey Locust, Buckthorn MUSHROOM SPAWN TOBACCO SEED—Havana, Virginia, and large Connecticut Leaf—all choice varieties.

BIRD SEED.—Canary, Hemp, Rape, Maw and Rough Rice. GRAFTING WAX, WHALE SOAP GUANO and SUPERPHOSPHATE OF LIME, in small packages of 25 cents each.

FORCING GLASSES, SYRINGES, and a full assortment of HORTICULTURAL IMPLEMENTS, VINE and FLOWER SCISSORS, GRASS and HEDGE SHEARS, &c., &c.

STRAWBERRY, CURRANT, and RASPBERRY SEED.—Lawton Blackberry, Red Antwerp, Fastolf and Franconia Raspberry, Hovey's, and other choice Strawberries, Cranberry, Pie Plant or Rhubarb, Asparagus, Osage Orange, and other plants.

Fruit Trees and Shrubs of all kinds, in the best condition furnished to order.

Catalogues furnished on application.

BOOKS.—A choice variety of standard works on Horticulture, Agriculture, trees, drainage, &c., &c.

R. L. ALLEN,

189 Water-st., New-York.

THORBURN'S WHOLESALE PRICED

LISTS OF VEGETABLE, FIELD, TREE and GARDEN SEEDS for 1857, will be mailed to Dealers enclosing a 3 cent stamp.

J. M. THORBURN & CO.

121n159 No. 15 John-street, New-York.

PEACH TREES.

We have on hand, for Spring sales, a large stock of the above, consisting of a few of the best varieties, which we offer as follows:

Yearling Trees, first size, \$70 per 1,000; do. second do. \$50 per 1,000.

For general assortment of Nursery stock, see advertisements and catalogues.

ELLWANGER & BARRY, Mount Hope Nurseries, Rochester, N. Y. January 20, 1857. 121n164

NEW STRAWBERRIES.

THE SUBSCRIBERS HAVING PUR-

chased the entire stock of STRAWBERRY PLANTS belonging to the late Dr. Thomas Edmondson, offer for sale three of his best seedlings (Marylandica, Harlem Orange, Charles' Favorite, at the following rates, viz.:

Marylandica, a staminate variety, vigorous grower, distinct in every feature from any other, having taken the first prize for the last four years, at the June Exhibitions of the Horticultural Society of Maryland, for being the largest and best fruit exhibited; rich crimson color, fine flavor, firm flesh, having frequently been sent to New-York, were firm and fresh when opened.

Price per 100 plants, \$15; do. dozen do. \$5.

Harlem Orange, a pistillate variety, orange color, pineapple shape, firm flesh, and prolific bearer.

Price per 100 plants, \$10; do. dozen do. \$4.

Charles' Favorite, a seedling from Hovey's Seedling, color, size, shape and flavor, similar to the same, but ripens ten days earlier.

Price per 100 plants, \$8; do. dozen do. \$3.

100 Plants of each of the above-named, in one order, \$26, 1 dozen Plants do. do. \$10

We also offer for the first time, the following new seedling Camallias of our own origination, viz.:

Feast Perfection, a fine imbricated flower, pink lilac, purple veined, delicate rose spots, price \$2 each.

Triumph of Baltimore, a large bold imbricated flower, striped carmine, price \$3 each.

Mary Kurtz, a seedling of Edward Kurtz, Esq., of this city, a well-known amateur; color, white ground, striped and spotted with rose, similar to Dutchess of Orleans, a very free bloomer, fine habit, price \$5 each.

One Plant of each of the above-named, in one order, \$10. SAMUEL FEAST & SONS, Nurserymen and Florists, Baltimore Maryland.

121-122n165

CRANBERRY PLANTS.

BEARING PLANTS OF THE BELL variety of Cranberry, the best for general cultivation, Prices, 50 cents per 100; \$4 per 1,000; \$15 per 5,000 plants. UPLAND CRANBERRY.—An entire new variety from Newfoundland, smaller Berry, but more prolific, and not as acid as the common Berry, at \$1 per 100 plants. F. TROWBRIDGE, 120-122n140 Dealer in Trees, Plants, &c., New Haven, Ct.

NEW CANAAN NURSERIES—Three and a half miles from the Danbury and Norwalk Railroad depot.—The subscribers are prepared to offer the largest and best assortment of Nursery stock the coming season, they have ever had, consisting of 50,000 Apple trees, three and four years from the bud or graft; 40,000 Peach trees, one year from the bud; Cherry trees, Pear trees, standard and dwarf. Also, a general assortment of Evergreens and other ornamental trees. N. B.—We would particularly invite the attention of persons wishing to purchase largely, to our stock of Apple and Peach trees. STEPHEN HOYT & CO. 120-122 New Canaan, Ct., Oct., 1856.

FRUIT AND ORNAMENTAL TREES FOR SALE.

THE SUBSCRIBER WOULD CALL attention the coming Spring to his large stock of PEACH and other Fruit Trees, embracing Apple, Pear and Cherry of both Dwarf and Standard, of extra and medium sizes. Also Apricots, Nectarines, Almonds, &c., with a large stock of Evergreens from 8 to 12 feet high, suitable for ornamenting grounds, at low prices. For Nurserymen, 100,000 Silver Maple Seedlings, with other nursery stock, such as French Quince, Plum, Pear, and Mahaleb Cherry stocks. Catalogues or Trade Lists, with prices annexed, will be sent to all who inclose a 1 cent stamp for each. Address ISAAC PULLEN, Hightstown, New-Jersey. 121-122n162

RASPBERRY PLANTS.

10,000 FINE PLANTS OF THE new French double bearing RASPBERRY for sale. They are as large as the Antwerp, perfectly hardy, need no covering, and are the most productive of all Raspberries. In thinning out in the Spring, I shall have about 10,000 more than I wish to keep. They will be packed in mats, and delivered at the depot, New-York city, at the low price of \$5 per 100, or \$10 per 1,000. Address E. D. TUCKER, 121-122n176 No. 11 South 7th-street, Williamsburg, L. I.

THE LAWTON BLACKBERRY is the queen of all berries—of most magnificent proportions, exquisite flavor, and delicate texture.—Springfield, Mass. Republican, Sept 4, 1855. Address, WM. LAWTON, New-Rochelle, N. Y., or No. 54 Wall-st. N. B.—Plants will be furnished at a reduced rate to societies and clubs. 120-121n147

LAWTON (OR NEW-ROCHELLE) BLACKBERRY.

WE ARE PREPARED TO FILL ORDERS PROMPTLY for GENUINE PLANTS of this remarkable fruit, carefully packed for shipment to any part of the world, from the largest and most reliable growers, at the following REDUCED PRICES, viz.: \$20 per hundred; \$11 per fifty; \$4 per dozen; 25 per half dozen. Pamphlets treating of Origin, Characteristics and Culture of the plant, forwarded on application. DREW & FRENCH, Commission Dealers in Domestic Fruit and Produce, 121-122n174 No. 35 Barclay-street, New-York.

LAWTON

BLACKBERRY PLANTS

The Subscribers announce to their friends and customers that they have now

OVER SIX ACRES

of the

GENUINE LAWTON

BLACKBERRY PLANTS

under cultivation, and in good condition. They are therefore prepared to fill large orders the coming FALL and the following SPRING.

PRICES.

Table with 3 columns: Price, Unit, and Quantity. \$25 per Hundred plants, \$12 50 per Fifty plants, \$5 per Dozen plants, \$2 50 per Half dozen plants.

N. B. All plants ordered of us will be TAKEN up and PACKED with the GREATEST CARE; and UNDER OUR OWN PERSONAL SUPERVISION.

Of the MANY THOUSANDS

sent out by us last year we have heard very few instances of failure, notwithstanding that they have been forwarded to EVERY PART OF THE COUNTRY.

and the setting out has often been entrusted to unskillful hands. Printed directions for setting and cultivating are sent with every package.

GEORGE SEYMOUR & CO., South Norwalk, Conn.

NEW-ROCHELLE (LAWTON) BLACKBERRY—Genuine Plants for sale on liberal terms by the subscriber. SIMEON LESTER, New-Rochelle, Westchester Co., N. Y. Can apply for information at J. W. LESTER'S, No. 161 Water-street, 116-121n104

OSIER WILLOWS.

THE SUBSCRIBERS ARE GENERAL Agents for George J. Colby, Patentee of the Machine for peeling Willows, and will sell the best kind of Osiers on the most liberal terms, and give a Circular containing full directions for cultivating, market, &c. free to all. Address CARL OSGOOD, Westford, Vt., or REUBEN OSGOOD, Fremont Lake Co., Ill. 121n152

FARMERS WILL FIND AT THE

NEW YORK AGRICULTURAL WAREHOUSE, 189 WATER STREET, every variety of implements necessary to manage their farms with the utmost economy and success. Every form, variety and size of Plows, Harrows, Cultivators, Seed and Corn Planters, Horticultural and Draining tools, &c. CORN HUSKING MACHINES.—A new and valuable invention, costing only \$12, is capable of husking several hundred bushels per day. COTTON SEED PLANTERS.—This is another new and important invention, which will save the labor of several hands, and sow the seed much more evenly, and yield a better standard of young plants than can be secured by hand-planting. Every new and important agricultural implement will be found in this establishment, all made of the best materials and on the most approved principles. As I manufacture all the leading implements in my warehouse, I am able to guarantee their quality in all respects. R. L. ALLEN.

RUSSIA OR BASS MATS, GUNNY BAGS, TWINES, &c., suitable for Nursery purposes, for sale in lots to suit, by D. W. MANWARING, Importer, 248 Front-street, New-York. 121-131n166

NEARLY READY—WITH SUGAR CANE SEED GRATIS.

CHINESE SUGAR CANE,

AND Sugar-Making.

ITS HISTORY, CULTURE AND ADAPTATION TO THE SOIL, CLIMATE, AND ECONOMY OF THE UNITED STATES. WITH AN ACCOUNT OF Various processes of Manufacturing SUGAR.

Drawn from Authentic Sources, BY CHARLES F. STANSBURY, A. M., Late Commissioner at the Exhibition of the Industry of all nations, at London. Price Twenty-five Cents. Published by C. M. SAXTON & CO., 140 Fulton-street, New York.

N. B.—To persons enclosing 25 cents and a three-cent P. O. stamp, to us, we will send the above book and Seed enough to PLANT TWO RODS SQUARE. C. M. SAXTON & CO., 140 Fulton-street, New-York. 121n154

NEW CHINESE NORTHERN SUGAR

CANE (SORGHUM SACCHARATUM).—Seed of this invaluable plant in packets, at 12 1/2 cents each (by mail, prepaid, 25 cents), or 75 cents per pound in quantity. 1 lb. is necessary to seed half an acre. CHUFUS or EARTH ALMONDS, \$1 per 100. JAPAN PEAS, 50 cents a quart. NEW ORANGE WATER MELON, 25 cents per ounce. CHRISTIANA MELON. KING PHILIP CORN. SWEET GERMAN TURNIP, &c., &c., with the largest and most comprehensive assortment of Vegetable, Flower and Field Seeds, to be found in the United States. Catalogues on personal application, or by letter, 3 cent stamp for return postage. J. M. THORBURN & CO., No. 15 John-street, New-York. 121n157

CHINESE SUGAR CANE, IN PACK-

ages of 8,000 seeds, sent post-paid to applicants for \$1 25, with directions for culture.—CHINESE POTATO (Imperial White), perfect tubers, the only ones for sale of American growth, \$20 per 100, \$5 for 20, \$3 per dozen. Imported tubers and root-cuttings, in certain varieties, \$63 per 1,000, \$7 per 100, \$4 for 50, \$2 for 25, with Treatise on Culture. Orders for the above articles, under \$5 Cash; larger amounts, 1/2 Cash, 1/2 on delivery, delivered and collected by Express.—Earth Almond, \$1 per 100; Licorice, \$10 per 100.—Lawton Blackberry, \$23 per 100; \$3 per dozen.—Osier Scions, 8 fine varieties, \$2 to \$5 per 1,000.—Tanners Sumach, \$10 per 100.—Victoria and Linnaeus Rhubarb, \$9 per 100.—Giant Asparagus, \$4 to \$6 per 1,000.—Yellow and Honey Locust, and Osage Orange Seeds.—Stocks and Scions of all kinds for engraving.—Cuttings of Trees and Shrubs; Tree, Vegetable and Flower Seeds, in quantity; Grapes, Gooseberries, Currants, Raspberries and Strawberries cheap, in quantity. The above are articles out of the general stock, which can be supplied during the winter months. Priced Catalogues of every department of Nursery stock sent post-paid to applicants who enclose stamps. WM. R. PRINCE & CO. Flushing, N. Y., Feb 1857. 121n177

NEW CHINESE POTATO (DIOSCO-

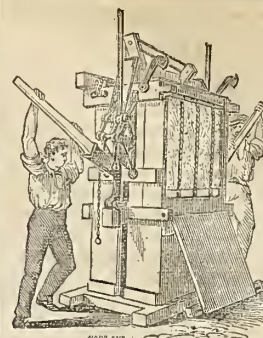
REA BATATAS).—Roots from four to nine inches long, at \$3 per dozen, and small seed tubers (can be sent by mail, postage paid), at \$1 per dozen, or \$7 per 100, with description and directions for culture. J. M. THORBURN & CO., No. 15 John-street, New-York. 121n158

CHINESE POTATO—DIOSCOREA BA-

TATAS—RICE WHITE VARIETY.—I have thoroughly tested the practical culture of this excellent. Its ease of culture, quality and productiveness, prove it to be the most valuable vegetable ever introduced on American soil. I now offer a limited quantity of seed at \$20 per 100, \$150 per 1,000 roots and tubers. Chinese Sugar Cane Seed in \$1 parcels. Also, in quantity. EDWIN HENRY, 282 Washington-st., N. Y. 121-41n155

WYANDOT PROLIFIC CORN,

THE GREATEST AGRICULTURAL wonder of the age. Its discovery worth millions to the country. Yield 150 bushels to the acre, (some say 200.) Plant only one kernel in a hill, each kernel will produce from three to 12 stalks, 10 to 12 feet high, 4 to 20 ears, 8 to 14 inches long, 10 to 16 rows, of beautiful pearl white corn. Seed selected with care, warranted genuine, put in a parcel sufficient to plant an acre. Price \$1 50, delivered in New-York City. Money or P. O. stamps must accompany the order, with directions how to send. Those who order sent by mail, and remit \$4, will receive, post paid, a parcel to plant an acre; \$2, half an acre; \$1, quarter of an acre. Orders for less double the above rates. Circulars showing the result from different parts of the Union, will be sent to all who send them. Address to J. C. THOMPSON, Tonpkinsville, Staten Island, N. Y. 119-123n133



Ingersoll's

Premium Portable HAY PRESS. This Press combines a greater power and portability, requires less labor, occupies less space, and costs less money, than any other machine for baling hay ever offered to the public. It is equally convenient for pressing cotton, hemp, hops, broom, corn, rags, lusk, &c. Samples may be seen at our warehouse, and circulars, with cuts and full descriptions, will be furnished upon application, by letter or otherwise, to

FAIRBANKS & CO., Scale Manufacturers, 120-122n146 No. 189 Broadway, New-York.

ALLEN'S IMPROVED MOWER, AND

MOWER AND REAPER—the best in America. A large assortment of the most approved Agricultural and Horticultural implements, of good quality and at low prices. For sale by R. L. ALLEN, 109-189 and 191 Water-st., New-York.

COMBINED PATENT STEAM BOILER.

THIS BOILER IS CONVERTIBLE into either a simple Cauldron or Steam Boiler at pleasure, and is admirably adapted to Cooking Food for Stock, and especially for making Sugar, or furnishing hot water or steam for Tanners and general purposes; for Scalding Hogs, Steaming Timber, and warming Buildings by Steam, by means of Pipes and Radiators. It is an oblong cast iron Cauldron, with Flanges at the top and bottom, to facilitate the Setting of it in a common Brick Furnace. It has a Cover, with Flange to match the Upper Flange of the Kettle. A few Bolts fasten the Cover and Kettle together, thus forming a Steam Boiler, containing about fifty Gallons of Water, with Steam Chamber above. The Cover can easily be removed when the operator wishes to use the Kettle as a Cauldron, and as readily replaced, when he wishes to use it as a Steam Boiler. It is furnished with Flexible Pipes, of Vulcanized India Rubber, which may be shifted about at pleasure, to convey the Steam into Tubs, Barrels, Vats, or Sleigh Boxes, or whatever the operator wishes to Cook or Steam in. Where these Pipes connect with the Boiler, there is a Slide Valve, with a simple Lever to move it, by which the Steam can be changed from one Pipe to the other, or made to supply both Pipes at once. The Valve is so arranged that the Steam can not be shut off from both Pipes at once, thus avoiding the possibility of an explosion. The operation of Cooking for Stock can be going on on one side of the Furnace, while the Family Clothes Washing, Clothes Boiling, Soap Making; Lard Rendering, &c., &c., is going on on the other—all with as little fire under the Boiler as will work an ordinary Cook Stove. They are arranged for burning either wood or coal. The manner of setting is very simple, requiring about 350 brick, and no more skill than every farmer possesses. Full directions nevertheless accompany each Boiler, so that it is impossible for the most ignorant and unskillful to set it up wrong. The advantages of cooking by Steam are obvious, when it is remembered that it can be done with much less fuel, and in half the time, in vessels of any kind, size or shape, without constant watching or stirring to prevent the substance from burning. Below is an extract from report of an experiment made by Mr. SAMUEL H. CLAY, of Kentucky, in feeding cooked food to hogs, in comparison to feeding in the ordinary way—showing a gain of about three to one in favor of the cooked food. It is evident that in feeding other stock the gain must be even greater.

All Boilers warranted to give satisfaction, and can be returned after thirty days' trial, if not found to come up to the wants of the purchaser. PRICE at CINCINNATI, \$45. Manufactured by SCOTT & HEDGES, Cincinnati, O. For sale by R. L. ALLEN, New-York; and SCOTT MOCK-BEE & CO., Philadelphia.

The following is an extract from a report of an experiment made by SAMUEL H. CLAY, of Kentucky: "Gave in thirty days to two hogs 405 lbs. shelled corn, gain 42 lbs.; gave in thirty days to two hogs 270 lbs. cooked meal, gain 80 lbs. The feed was then reversed; that is, the hogs that had much were fed with the shelled corn, and much given to the other two. Gave in twenty-six days 264 lbs. shelled corn, gain 4 lbs.; gave in twenty-six days 234 lbs. cooked meal, gain 74 lbs.; two other hogs in thirty days 390 lbs. boiled corn, gain 102 lbs."

[From the Cincinnati Daily Commercial] "COOKED FOOD FOR CATTLE.—The advantages of using cooked food for cattle can be so easily verified by experiment, that it must soon be generally adopted by cattle growers and dairymen. The food thus given is more easily and perfectly digested, and will, consequently, produce a much larger amount of good meat, and pure, rich milk, than given in any other form. A well-informed milkman, who has used the apparatus manufactured and sold by Messrs. SCOTT & HEDGES, of the Little Giant Corn Mill Works, for cooking food for cattle and hogs, sends us the following: "I commenced the use of the Steam Boiler on the 7th inst., at which time my ten cows gave sixty and a half quarts. My daily feed was ten buckets of middlings, and corn and cob meal about equal parts. On the 9th, reduced the feed two buckets. On the 14th, they gave seventy-seven and a half quarts. My milk has improved in quality, and my cows in appearance."

"From this it appears that the gain in seven days was seventeen quarts, being 28 per cent. gain in milk, with a saving of 20 per cent. in food. The milk produced from such food is altogether different both in quality and appearance. 121n171

HORSE POWERS AND THRESHERS.

I have for sale the best and most approved made in the United States, viz. Allen's celebrated one horse endless chain power. Emery's Patent do do do do. Allen's celebrated two do do do do. Emery's patent two do do do do. Trimble's one to four horse iron circular power. Warren's do do do do. Eddy's or Tasslin's superior wood and wrought iron one to six horse circular power. Hall's or Pitt's one to eight horse iron circular power, much used in California and other Western States. THRESHERS. Allen's or Emery's Threshers with or without Separators. Eddy's Iron Cylinder Threshers. Hall's or Pitt's one to eight horse Threshers and Cleaners combined, for two to eight horses. R. L. ALLEN, Nos. 189 and 191 Water-st.

POSTSCRIPT—ABOUT SEEDS.

Since page 37 was stereotyped, we have learned of large quantities of SUGAR CANE SEED ordered from France by several dealers, and the probability is that all who wish to procure it by the pound, can do so within a few weeks.

N. B.—WHEREVER A NEW CLUB OF SIX SUBSCRIBERS (FOR FIVE DOLLARS,) IS MADE UP FOR THE PRESENT YEAR, WE WILL SEND TO SUCH CLUB AT LEAST THREE THOUSAND SEEDS FREE, IF THE POSTAGE (21 CENTS) IS PROVIDED FOR.

MARKET REVIEW, WEATHER NOTES, &c.

AMERICAN AGRICULTURIST OFFICE, NEW-YORK, JAN. 30, 1857.

The weather during the past week has been very unfavorable for business. Harbor navigation has been seriously obstructed by ice. The streets of the city have been in a very bad condition since the heavy snow storm a few weeks ago.

Table with 2 columns: Commodity, Price. Includes Wheat Flour, Wheat, Corn, Cotton, Rice, Tobacco, Wool, Pork, Beef, etc.

The editors of the New-York Shipping and Commercial List have issued their annual statements of the Coffee, Molasses, and Sugar trade of the United States, (exclusive of California and Oregon,) for 1856:

The statement of the Coffee trade of the United States for 1856, makes the total receipts of Coffee, for the year ending Dec. 31, 1856, 1,678,902 pkgs., weighing 230,943,150 lbs., against receipts in 1855 of 1,704,657 pkgs., weighing 238,214,533 lbs.; and the total consumption in 1856, 218,228,490 lbs., against a consumption in 1855 of 210,378,287 lbs.—being an increase of 7,850,203 lbs., or 3.73 per cent.

The statement of the Molasses trade of the United States for 1856, gives the receipts of Foreign Molasses in the United States for year ending Dec. 31, 1856, at 25,033,724 gallons, against total receipts in 1855 of 21,152,446 gallons; and the total consumption of this description in 1856, at 23,014,878 gallons, against a consumption of Foreign in 1855 of 23,333,423 gallons, being a decrease in the consumption of Foreign in 1856, as compared with 1855, of 2.20 per cent., while the total consumption of Foreign and Domestic in 1856, was 39,608,678 gallons, against a consumption in 1855, of 47,266,085 gallons, a falling off in 1856 of 7,657,207 gallons, or the large decrease of 16.20 per cent.

The statement of the Sugar trade of the United States for 1856, represents the total receipts of Foreign Cane Sugar at all ports, as 275,662 tons of 2,240 lbs. in 1856, against 205,064 tons of 2,240 lbs. in 1855; the total consumption of Foreign Cane Sugar as 253,292 tons of 2,240 lbs., in 1856, against 192,607 tons of 2,240 lbs. in 1855;

1855; and the total consumption of Foreign and Domestic Cane Sugar in the United States as 376,760 tons of 2,240 lbs., in 1856, against 377,752 tons of 2,240 lbs. in 1855. The imports of Foreign Sugar into the United States during the past year, largely exceed any like period in the history of the country.

We annex a comparative list of the closing prices of the principal agricultural products, last month and this, showing the fluctuations since our previous issue:

Table with 4 columns: Commodity, Dec. 27, Jan. 30. Includes Flour, Rye, Corn, Wheat, Oats, Potatoes, etc.

The subjoined tabular statement presents summaries of the total receipts of the leading kinds of Breadstuffs, by railroad and coastwise, for twenty-nine business days, ending to-day, of the sales at the Corn Exchange in this city, and of the exports of the port of New York for the same period:

Table with 3 columns: Commodity, Receipts, Exports. Includes Wheat Flour, Wheat, Corn, Rye, Oats, Barley.

This statement of the receipts and sales of Breadstuffs enables us to make the following comparison:

Table with 4 columns: Date, Receipts, Sales. Compares 29 days this month with 26 days last month.

Table with 5 columns: From, River and R.R., Through Toll-rates, Slaughter'd at Plainville, Totals. Shows sources of supply for live sheep.

The receipts of live Sheep have fallen off, but large numbers of dressed are constantly arriving. The numbers of live sheep for the five weeks ending Jan. 28, were 37,963.

THE WEATHER—Has been unusually severe the past month in every direction, with heavy snows and high winds, in many places doing extensive damage upon the coast, and blocking up roads upon the land.

CONTENTS FOR FEBRUARY, 1857.

Table listing contents for February 1857, including Apple Trees, Artichoke, Ashes, Beans, Bread, Calendar for February, etc.

American Agriculturist. (VOL. XVI.)

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; IN-DOOR and OUT-DOOR work around the DWELLING; care of DOMESTIC ANIMALS, &c. &c.

The matter of each number will be prepared with reference to the month in which it is dated, and will be promptly and regularly mailed at least one day before the beginning of the month.

A full CALENDAR OF OPERATIONS for the season is given every month. Over FIVE HUNDRED PLAIN, PRACTICAL, instructive articles are given every year.

TERMS—INVARIABLY IN ADVANCE. One copy one year \$1 00. Six copies one year 5 00. Ten copies one year 8 00.

In addition to the above rates: Postage to Canada 12 cents; to Europe 24 cents; Delivered in New-York City 12 cents.

Postage anywhere in the United States and Territories must be paid by the subscriber, and is only six cents a year, if paid quarterly in advance, at the office where received.

Subscriptions can begin Jan. 1st, July 1st, or at other dates, if especially desired. The paper is considered paid for wherever it is sent, and will be promptly discontinued when the time for which it is ordered expires.

All business and other communications should be addressed to the Editor and Proprietor, ORANGE JUDD, No. 191 Water-st., New-York.

Personal Letters, or those for the Editor only should be marked Private. Persons forwarding money by mail may consider the arrival of the paper an acknowledgment of the receipt of the money.

TERMS—Of American Agriculturist and Weekly Times. One copy of both papers one year \$3 00. Five copies of both papers one year 8 50. Ten copies of both papers one year 17 00.

AMERICAN AGRICULTURIST

Designed to improve all Classes interested in Soil Culture.

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON

ORANGE JUDD, A. M., }
EDITOR AND PROPRIETOR.

ESTABLISHED IN 1842.

{ \$1.00 PER ANNUM, IN ADVANCE.
{ SINGLE NUMBERS 10 CENTS.

VOL. XVI. -No. 3.]

NEW-YORK, MARCH, 1857.

[NEW SERIES—No. 122.

Business Office at No. 191 Water-st.
For Contents, Terms, &c. see page 72.
Notes to Correspondents, page 68.
For Business Notices, see page 68.
For Advertisements, see pages 69-71.

WORK FOR THE MONTH.

Joyous, the impatient husbandman perceives
Relenting Nature, and his lusty steers
Drives from their stalls, to where the well-tused plow
Lies in the furrow, loosened from the frost.
There unrefusing, to the harnessed yoke
They lend their shoulder, and begin their toil.
Cheered by the simple song and soaring lark.
Meanwhile recumbent o'er the shining shaft,
The Master leans, removes the obstructing clay,
Winds the whole work—and side long lays the shaft.

This is Thomson's picture of a March scene among the farms of old England. The poet has given to the scene a little of the rose color of fancy, even though the season there is more forward than with us. Nature indeed begins to relent upon our shores in this month, but very little plowing is done ordinarily, until its last days. If it thaws by day, it freezes by night, and not much progress is made in relieving the ground of the deep frosts, that have accumulated in the winter months. Still it is manifest, on every side, that the reign of the frost king is broken. The rivers and lakes are unbound, and the great cakes of floating ice go down the rivers in majestic procession to the sea, covering many square leagues of its waters. The vessels, so long ice bound in port, again spread their sails to the breeze and the streamers again thread the winding channels of our inland waters. It is a beautiful sight to see these signs of returning life and activity, after the long and dreary winter.

Remote from the sea and navigable waters, the indications of the changing season are quite as manifest. One by one, the great snow barriers laid upon the highways go down before the advancing sun. The morning light comes earlier, and prolongs its stay at evening, as if loth to part with the world it was waking to new life and beauty. The buried meadows and stubble fields emerge from their long darkness beneath the snow. The banks under the walls gradually disappear, and in sunny and sheltered spots, the grass cautiously thrusts its green blades through the dead stubble of the former year. It is a glad sight, to see these patches of verdure starting under the walls, and upon the hill sides, and extending their domain over the sere fields. Along the water courses the willows give the first indications of life, and the young buds start out armed with

furs, as if afraid to venture into the frosty air. This doubtless is one of the beautiful provisions of Nature to guard these early buds against injury.

In the forest, too, there is a silent quickening of the buds, though it is hardly yet perceptible to the eye. The sap begins to move, and the harvests of the sugar fields of the north are now gathered. In the maple orchards, all is life and bustle. The sunny sides of trees are tapped, and from the smooth elder-spouts, the forest nectar drips into rough home-made troughs. The contents of these troughs are daily gathered up, and carried to the boiling house in pails by hand, or poured into barrels, and drawn by oxen upon a sled. The kettles are kept boiling while the sap runs, and the sap is sugared off into pans of various sizes, making solid cakes. In this way many families supply themselves with all the molasses and sugar used at home, and make a surplus for market. This harvest comes at a season of the year, when other farm work is not pressing, and for those who have a good supply of rock-maple in the forest, it is perhaps the cheapest method of furnishing sweetening for home use. The price of a clean light-colored article of maple sugar is always high in the cities, and large quantities are disposed of by confectioners. The city demand has led to greater care in the process of manufacture, and parties studying clean sap-vessels, kettles and neatness in the process of crystallization are amply rewarded for their trouble.

Forests in which maple trees abound are sometimes thinned out, leaving nothing but the maples for this manufacture. Rough lands are sometimes planted with young maples for this purpose. In mountainous districts, remote from sea ports, lands thus treated will perhaps pay as well as in any other crop. The maple flourishes admirably in very rough rocky soils, and such lands in many parts of the north will pay better for generations to come in forest, than in anything else. Maples grow rapidly and may as well be planted as any other variety of wood. It is a favorite wood for fuel, forming a clear light blaze, and a hard coal retaining its heat for a long time. It is also an excellent wood for timber, and immense quantities of it are used in the manufacture of chairs, washing boards, various articles of cabinet work, and agricultural implements. We would say then to those who are making clearings in the forest and devoting all wood to indiscriminate destruction,

SPARE THE ROCK MAPLES.

They will certainly pay well for wood and timber in another generation, and may be the cheapest resort for sugar, as they undoubtedly now are in many farming districts. It is by no means settled that the new cane which promises so well, will be our cheapest source of sugar, even if sugar can be made from it, with profit. Or if it gives a profitable return of sugar and syrup, south of the forty second parallel of latitude, it is not certain that it will yield sugar enough to pay for cultivation in higher latitudes, and in the coldest parts of the country. There are many unsettled questions in regard to this plant, so that, the good old sugar trees of the Indian should still be cherished among us, as a matter of economy, if not of taste. The general subject of

THINNING FORESTS

receives far too little attention. The slovenly method of cutting wood where it can be got with the least trouble, is to be reprobated. Nor do we believe the method sometimes recommended of cutting a forest clean, as you go, is a good rule for all cases. It may be advisable in those cases, where the forest is uniformly old, and most of the trees are growing worse rather than better for timber. But this is the character of very little forest land in the older States. Almost all of it is second or third growth of timber, and contains a great many thrifty saplings from five to ten years old, that, if cut, will only put back the subsequent crop of wood many years. Silas Brown, one of the best farmers in Massachusetts, says in a recent communication in the N. E. Farmer, that he has been in the habit of cutting wood for market for forty years as one of the most profitable productions of his farm, and that he has paid critical attention to the succeeding growth. "At the time of removing the old growth, young white pines had sprung up, and had advanced in all sizes, from one foot up to some twenty feet in height, on some of my lots; on other lots there was no appearance of young progeny. We were very careful to save all the young trees possible, instead of indiscriminate havoc. The advantage of saving the saplings will be readily discerned by every practical wood grower; the young trees carefully preserved from injury, while cutting off the old growth, will soon take a start, and be in advance of the forest, which is to spring from the seed, some 5, to 15 or 20 years. This advance in the growth is

no small item, in the farmer's income. On lots, where none of these young saplings had taken root, I have been careful to select suitable seed trees of the varieties I wished to propagate, and spared one or more on every acre I wished to replenish, with a future growth. In this way I have been saved the labor of sowing the seed, or transplanting the trees, and have found about the third or fourth year from the cutting off, a plentiful supply of young trees showing themselves, but greatly in the rear of those lots where the young saplings were saved."

This is valuable testimony from an intelligent farmer, who has seen the working of both methods upon his own woodlands. The care of our forests, so rapidly waning in all the older states, is a matter that can receive attention none too soon. The time is not distant when they will be far more valuable than they now are for timber, if not for fuel. Fuel, we may indeed find elsewhere, but nothing can ever supply the place of wood in many of our manufactories. The farmers of the present day should consider the wants of posterity in this respect, and should hand down their farms to their heirs as well wooded, as they received them from their fathers. There are large tracts of country in this State, and indeed in the rougher portions of all the States, that may be more profitably kept in timber, than in anything else. It is a poor inheritance to hand down to one's heir, a miserable worn out farm, not only stripped of its soil, but denuded of its forests, without any available means to restore its wasted energies. The rocky hill tops, and ridges should always be kept in forest. The plains and vallies below will have a milder climate, and be more productive for their protection. Where these elevations have been stripped, they should be immediately sown with seeds of forest trees. Too much of this rough land has already been cleared up, in many parts of the country.

SUBSTITUTES FOR WOOD,

have as yet been very little thought of, out of cities and villages. But vast store houses of excellent peat are in reserve upon many farms. This is used in some small districts in this country, and might come into use still more largely with great advantage to the waning forests. In the town of New-Shoreham, an island near Newport, R. I., it is the only fuel, and has been for the present generation. These peat mines are worth looking up. They exist upon many farms in worthless swamps, unknown to their owners, because they have never been explored. But near railroads, and navigable waters, anthracite coal is already a more economical fuel than wood, and many farmers are resorting to it, for their winter supplies. They only cut such trees, as are decaying, for their own fires and for market. The forests are judiciously thinned, and are every year increasing in value. This course could be adopted by a much larger number, with profit.

THE WELL-USED PLOW

of which the poet speaks, though true enough in his sense, is still a very ill-used

implement, if left standing in the furrow, exposed to all the winter storms. But we frequently see this spectacle in our travels over the country. Such neglected tools can not live out half their days. They become saturated with water, decay early, and break. The fault, of course, is charged upon the manufacturer of agricultural tools, when it properly belongs to a careless and improvident owner.

A TOOL HOUSE

is the moral of all such plows left standing in the furrow. It was justifiable when farmer Putnam heard the first guns of the Revolution to leave his plow in haste. But the attack of winter is less sudden, and every tool should be in its place. Now they should be thoroughly overhauled and put in order. The spring's work is just ahead.

PLANNING WORK IN THE KITCHEN GARDEN.

Little can yet be done here besides pruning trees and shrubbery, and preparing hot-beds. Of these operations we have spoken elsewhere. Our object now is simply to urge the careful *planning* of the spring work, which will soon begin in earnest. In a few weeks, spring will be here, with her birds, her early flowers and bursting buds; and all our readers will be full of business, from morning till night. It will be too late to plan then. But now, while winter still lingers, and your hands must, of necessity, lie comparatively idle, work with your brains. Spread a sheet of paper before you, and with pencil and ruler, map off your garden into some convenient plan. *There is a particular design which is better for you than any other: find out what that is and put it on paper*, preparatory to working it out on the soil itself. For example: the rhubarb and the asparagus-beds should have a warm corner, so as to give them an early start in spring. Grape-vines, also, need a sheltered and sunny aspect, to insure the ripening of their fruit before frost. Give them such a position, accordingly, on your plan. No modern garden is considered complete without its collection of dwarf pears,—the number varying with the size of the garden—its raspberries, blackberries, currants, gooseberries, peaches, apricots, quinces and the like; and successful practice assigns these to borders running around the garden, and sometimes through the middle. Therefore, mark off on your plan a border, from four to six feet wide, on each side of the garden next to the fence, and if you have room, run a broad walk through the centre, with borders of the same width on each side. The walk next to the fence-border may be three or four feet wide, and the central walk, five. If vines or espalier trees, occupy one of these outer borders, they can be trained on the fence, leaving room in front of them for other small fruits, as gooseberries, strawberries, &c.

In planting dwarf pears, and other small fruit trees, they should not be set so near together, or in such situations that they will shade the vegetables which are to grow near

them. Eight feet apart is near enough, and the largest should be set, if possible, where their shades will fall across the walks, and not on the beds devoted to vegetables. And here, let us say, while planning these borders, take pains to fill them with the best kind of each fruit selected. Among currants, raspberries and grapes, for instance, there is great room for choice; and it would be great folly to plant the poor sorts, which, after years of wasted toil, will have to be torn up and thrown away in disgust. Among dwarf pears, also, a wise selection is perhaps of still greater consequence. Experience has now decided that certain sorts of pears uniformly succeed well on the quince-stock, others less often, and others seldom, if ever. There are but few persons for whom it would be worth while to trifle with these uncertain varieties. We say, then, ascertain from books, papers and your horticultural neighbors, what the reliable sorts are, and let them alone appear on your plan, and in your garden.

Thus much for the fruit-borders. The remainder of the garden may be laid off in beds, or in square plots for vegetables. These may be intersected with narrow walks, as convenience shall require. The vegetables most commonly needed and most commonly grown for family use, are as follows: For summer—asparagus, peas, lettuce, cucumbers, summer-squash, melons, beans, tomatoes, beets, cauliflower, sweet-corn, spinach, peppers, egg-plant and radishes. For winter use—cabbage, carrots, winter squash, parsnips, oyster plant, potatoes, beets, turnips, onions and celery. There should also be a permanent bed of herbs, such as sage, thyme, parsley, mint, sweet marjorem, summer and winter savory. And for a relish, devote a corner to horse-radish.

Every one should determine beforehand, which of these vegetables and herbs he will plant, how many of a sort, and where they shall stand. Let these things be noted on the plan already referred to. Then, nothing will be forgotten when the busy season comes, and everything will occupy its appropriate place.

It is, perhaps, unnecessary to add, that it should form part of every plan to keep melons and squashes as wide asunder as possible, to prevent their mixing; that where it can be done, two crops of vegetables should be grown in succession the same season,—for example, celery following peas, and turnips following cauliflowers. It would also enter into a good garden-plan to ascertain and note down the best sorts of each vegetable to be grown. There is a great difference between varieties, and it is important to find out what the best are, and to procure the seeds before the hurry of planting time comes.

By drawing up now, some plan like that we have indicated, and adhering to it, garden work will proceed intelligently, and in its results will afford great satisfaction.

The oftener carpets are shaken, the longer they will wear. The dirt that collects under them grinds out the threads.

CALENDAR OF OPERATIONS.

MARCH, 1857.

[We put down here a summary of various operations, many of them very common ones, it is true, but a simple catalogue like this will often suggest a piece of work that would otherwise be forgotten. The Calendar is adapted to the latitudes of 41° to 42°. A little allowance must be made for each degree of latitude—later north—earlier south. This table will be made out anew every month and adapted to the season of each year. It will also be greatly enlarged at the planting and sowing seasons.]

EXPLANATIONS.—The letters f. m. l. refer to first, middle, and last of the month.
Doubling the letters thus: ff., mm., or ll., gives emphasis to the particular period indicated.]

FARM.

The chief business for this month will be to prepare for the operations of April and May, two months which should be relieved of every possible burden.

Cattle—These should have special care at the present season. A little neglect now, will often produce debility which a whole summer may not recover.

Cows—Treat those 'coming in' with suitable nourishing food, giving roots or meal with cod fodder, unless there is a predisposition to excess of milk, or milk fever. Give plenty of pure water. Provide those about calving with plenty of stable room.

Cellars—Clean early, removing all decaying vegetables and after washing, whitewash the walls and ceiling, ventilating freely.

Clover—Sow m. to l., either on a light snow, or better when the ground is frozen on a calm morning.

Draining wet or stiff soils—Commence as soon as the frost is out of the ground—see article.

Fences—Repair as early as may be, collecting posts, rails and stakes for future use. Have a good pile of each finished and packed away, under cover, if possible.

Fodder—Preserve due economy in feeding, using ricks if given in the yards. If cut, and a little meal strewed over, wetting enough for it to adhere, cattle will eat what they otherwise refuse.

Fowls—Provide with lime or powdered oyster shells, and animal food. See that plenty of good nests are made. Artificial eggs are very convenient when severe frosts occur. Those of porcelain or white glass are now sold quite low.

Grain for Seed—Procure a full supply of all that will be needed and thoroughly cleanse it for use. Test if necessary as described elsewhere.

Harrow out old corn roots f. to m. or as soon as the frost is out.

Hogs—Continue to make all the manure possible, using muck, leaves and straw. Give extra food to sows with young pigs, adding a little animal food and salt occasionally.

Horses—Have in good working order, mixing or alternating their grain with carrots.

Manures—Continue to make under cover. Cart from the yards and pens to large heaps where it is to be used at a distance, keeping them covered with muck or plaster.

Mowing Lands and Winter Grain—Do not allow cattle or sheep to trample them over.

Oxen—See that they are well kept and in working order. Plowing may be done as soon as the frost is out and the ground dry. Better defer for a few days however, than turn over a heavy wet soil to bake in the sun.

Potatoes—Select for seed, and sort over those for family use keeping them as much as possible from warmth, air and light.

Sheep and Lambs—Require much care at this season. Feed well, and keep ewes with lamb away from cattle—indeed sheep should always be kept by themselves. Give salt, or feed salt hay occasionally.

Sugar Maples—Tap ff. and attend to daily. See Work for the Month.

Tools—Look over, and if any are wanted, procure them before you are hurried. Repair old ones and see that the plowing gear is in readiness.

Wood—Complete the preparation of, for summer use ff., that no future delays may be necessary on this account. See article on former page relative to "Forests."

Young Stock—See that it comes through the winter in good condition. Do not turn out to pasture too early.

ORCHARD AND NURSERY.

Apples—Plant as soon as the ground can be worked.

Apricots—Plant f. m. l.

Blackberries—Plant m. l.

Cherries—Plant early and graft m. l. See article on grafting.

Currants—Set out and put in cuttings f. m. l.

Digging Trees and shrubs in Nursery—Attend to during the month putting them in trenches for spring use or sales.

Figs—Plant, layer, and put in cuttings m. l.

Fruit and Deciduous Ornamental Trees—Transplant and plant out, both in Orchard and Nursery, f. m. l.

Gooseberries—Plant and put in cuttings m. l.

Grafting—Perform on cherry trees in mild weather m. l. See article. Apples and Pears may be grafted ll.

Grapes—Prune ff, if not done. See article.

Mice-girdled Trees—Cover with grafting wax or clay and bank the earth up about them. See notes to correspondents.

Mulch newly planted trees.

Nectarines—Plant m. l.

Packing Nursery Trees—Perform with care, using moss for the roots, covering with mats, and straw up the bodies.

Peaches—Plant and head back m. l. Examine for borers, cutting them out with a knife whenever found.

Pears—Plant both Dwarf and Standards m. l.

Planting Seedlings and Stocks—Follow diligently before the rush of business comes on. Early planting is much preferable, especially in dry seasons.

Pruning—We advise doing but little more than removing injured branches. See article on page 27.

Quinces—Plant m. l.

Raspberries—Uncover ll. if the weather is quite settled. Plant hardy varieties m. l.

Scions for Grafting—Cut ff. See article.

Shrubs—Transplant early blooming varieties f. m. l.

Strawberries—Uncover and dress, making new plots l. Trench or subsoil, when ground is dry enough, and manure heavily grounds which are to be planted with nursery stock. It is better to prepare the soil to produce a crop of trees without much after manuring.

Vines—Prune, layer, make cuttings and plant f. m. l.

Walnuts, Chestnuts, and any other seeds including apple, pear, quince and peach put in boxes last fall—should be planted out ff. to m.

KITCHEN AND FRUIT GARDEN.

The operations in these must necessarily be governed by the forwardness or backwardness of the season. Generally it is not best to put many seeds into the open ground until the weather is somewhat settled and the soil both warm and dry. As most vegetables are more tender and of superior flavor when grown quickly, it is better to sow at such times as they will come rapidly forward which they can not do, during the changeable weather of early spring. The planting of all the vegetables mentioned below may be deferred until April, in this latitude, and may be necessarily so, but as that will be a very busy month, if the ground will admit of working, it is better to forward the operations by planting some of the more hardy varieties during this month. From present appearances we have the promise of an early spring, and vary the Calendar a little in accordance.

Artichokes—Jerusalem—Dress and plant m. to l.

Asparagus—Uncover old beds ll. removing the coarse litter and forking in plenty of manure, taking care not to injure the crowns of young plants. Sow seed and plant out new beds, trenching the soil and manuring heavily.

Blackberries—Plant ll. if on light, warm, dry soil.

Borecole or Kale—Sow ll.

Cabbages—Sow and plant out from cold frames ll. Set out stumps for early greens m. to l. Sow in Hot Beds ff.

Cardoon and Caraway—Sow ll.

Cauliflower—Sow f. in Hot Beds, and ll. in open ground pricking out those in cold frames ll. if the weather appears settled.

Celery—Sow in Hot Beds f.

Cold Frames—Air freely each day, sowing seeds ff. to take the place of plants to be pricked out ll.

Compost for hot beds and general use—Prepare ff. and cart to grounds where it is to be used. Turn over those heaps carted out last month and which are now fermenting, fixing the escaping gases by charcoal dust, plaster, or muck thrown over the whole heap.

Cress—Sow ll.

Currants—Plant and put in cuttings as soon as the ground is in working order.

Egg Plants—Sow ff. in Hot Beds.

Fruit Trees trained as espalier—Regulate and fasten to trellises ff.

Garlic—Plant l.

Gooseberries—Plant as currants, which see.

Grape Vines—Prune ff. if neglected, see article on another page.

Grounds—Level those ridged up last fall and plow and manure lands for early planting.

Horse Radish—Plant m. to l.

Hot Beds—Make ff. See article in present number.

Kidney Beans—Force m. to l.

Leeks—Sow m. to l.

Lettuce sow ff. in Hot Beds; pick out from frames and sow in open grounds ll.

Liquorice—Plant m. to l.

Manure—See compost.

Mustard—Sow m. to l.

Onions—Sow and put out sets for rareripes ll.

Parsley—Sow l.

Peas—Sow m. to ll. on warm dry soil.

Plow deep and trench soils for early planting.

Potatoes—Plant early, ll. or sprout in a manure heap f. to m. See article.

Radishes—Sow ff. in Hot Bed and ll. for open culture.

Raspberries—Uncover buried vines ll., if the weather appears settled, tying to stakes at the same time. Planting may also be done, but this may be deferred quite as well to the first of next month, except south of this latitude.

Rhubarb—Remove covering ll. and fork in a good treading of manure. Set out new crowns and sow seed as soon as the ground can be worked.

Sage—Sow and transplant ll.

Seeds—Procure full supply and test ff. See article on proving seeds.

Shallots—Plant l.

Spinach—Sow m. to l. and uncover any protected during the winter.

Strawberries—Uncover beds ll. and unless the protection was coarse manure, give a moderate coating of fine. See strawberry article on another page.

Tomatoes—Sow in Hot Beds ff. and in boxes m. to l. to be carried in during cold nights.

Tools—Procure and repair ff., mm., ll.

Trellises—Construct and repair f. m. l.

Turnips—Sow a few ll. for early use.

FLOWER GARDEN AND LAWN.

Annuals—Plant or sow hardy varieties on warm borders ll. Those less hardy wanted to bloom early, sow in hot bed f. to m.

Asters, halsams, clarkias, hibiscus, petunias, phloxes, portulacas, verbenas, &c.—Sow ff. to m. in mild hot-beds for early flowering.

Box edgings—Plant m. to ll., or as soon as the ground can be worked, clipping both top and roots.

Bulbs covered according to the directions given last fall—Remove leaves, tan or litter, and stir the surface of the soil gently, without injuring the young shoots. Cover with mats those springing up, should there be heavy frosts.

Carnations, pinks, daisies, &c., in frames—Give plenty of air, shifting to larger pots as needful. Remove any decayed leaves, and water lightly.

Chrysanthemums—Transplant ll., dividing into single roots, or at most so that only three stems will shoot up. They will flower much better than large stools.

Deciduous Trees and Shrubs—Transplant m. to l. Early planting is much the best, especially for early flowering shrubs.

Grass Edging—Trim with edging knife, replacing with fresh turf any defective places. Make new ones with sod from close, fine pastures.

Gravel Walks—Dig up, or hoe and rake off foul ones, covering with fresh gravel, rolling smoothly.

Lawn—Rake off old leaves and grass m. to l., sowing seed on bare spots, or fresh turf may be cut to fill them. Guano water, [say 1 lb. to 10 gallons, and 2 lbs. to a square rod] given through a sprinkler, or watering pot, or mixed with earth and sown over before a rain, is a good dressing.

Manure—Give to old grounds, spading in thoroughly. Trench or plow in a good supply on grounds to be laid out.

Perennials—Propagate from offsets and by dividing the roots.

Roses—The last of this month is the best time to transplant these. They will bloom more freely and succeed better every way if planted early.

Stock Gillics, Collinsia, mignonette, &c.—Sow in hot beds f. to m. and in warm borders ll.

Tender Plants protected during the Winter—Remove covering from, ll., unbinding those which were strowed up, or drawn in as protection against snow.

GREEN HOUSE.

Air—Admit each day if possible.

Bulbs in flower—Keep near the glass, watering sparingly. Change the water often where they are in hand glasses.

Camellias are still in flower—Wash the leaves but do not wet the flowers. Water as needful. Inarching may be commenced ll.

Chrysanthemums—Water freely as they begin to push into growth.

Cuttings—Put in any which yet remain of last autumn's making.

Geraniums—Keep in airy situations, guarding against green fly by fumigations.

Insects—Destroy by Tobacco fumes, washing with soap suds, &c., before they have made a vigorous growth.

Oranges, Lemons, Oleanders, &c.—Water as necessary, and cleanse those affected with scale.

Pot off plants sown last month.

Seeds—Sow for Hot and Green house and tender annuals for the flower border.

Temperature—Fire heat may be dispensed with except in cool weather. By putting the shutters on at night, the sun heat may be kept above 35° in ordinary weather.

Water—Give more freely now that plants are in a growing state.

HOT HOUSE.

Air—Admit each day if the weather will permit.

Bulbs—Keep up a succession in flower by bringing in from the Green house. Water freely and if in glasses, change often.

Cactuses—Bring in from dry shelves, giving airy situations and plenty of water.

Cinerarias—Turn often to preserve the upright form of the flower stalk.

Cleanse plants, as directed last month.

Fuchsias, Pelargoniums, &c.—Shift or repot as they advance in growth.

Heat—Less care will be requisite as the season advances. The temperature should be maintained as even as possible ranging from 55° to 65° and in no case exceeding 85° with sun heat.

Insects—Follow the directions given under this head in February.

Roses in bloom—Water freely and watch the approach of insects.

THE APIARY.

Mr. M. QUINBY, (The Author of "Mysteries of Bee-Keeping Explained,") sends us the following directions for the season:

Bees that have been housed, can be put out the first warm days that occur in this month. Snow on the ground is no objection; if it is only hard, it is just as good as bare ground. All that have been out through the winter should now be looked to, as well as those that have not been properly managed in the house. All dust and dead bees on the bottom board should be swept out. Ascertain the actual condition of every stock, whether weak or strong. Turn the hive over to admit the light among the combs—search for and remove all that are moldy—see if there are any little clusters of dead bees among them, if so, remove them at once, before they become putrid, together with all the combs in immediate contact, which are quite sure to be moldy and unfit for use.

All weak colonies are liable to be plundered by the strong ones, and they should be expressly guarded by closing the entrance, allowing only one bee to pass at once—it will do much to prevent a commencement of robbing—when that habit is once established, it is not easily cured. Robbers generally commence depredations the first really warm days.

It is unnecessary to admit as much air to any stock now, as was needed through the coldest weather. It is now important to bring forward the brood as fast as possible—heat is required, and this can be maintained with closed doors better than if all are open—the doors to be regulated by the number of workmen to be accommodated. The weather should also be observed; strong stocks need more air in warm days than in a chilly storm—a little daily attention to regulate the passage will be fully remunerated.

If any need feeding, it should be done by putting honey on the top of the hive; open the holes and set over a box to prevent the bees from other stocks getting it, and if possible even scenting it.

DISH OF EARLY ASPARAGUS*

Is very desirable after the Winter's fast. This may be easily had with a little trouble and expense. For the last three years we tried the following method, and found it to work well. We have a box made of common pine boards, twelve feet in length and six in breadth. The back board is about 18 inches wide, and the front about six. We place the box upon any part of the asparagus bed convenient, about the first of March, and cover with five sashes made to fit nicely into the frame. This gives a surface of seventy-two feet under glass. We surround the box with a little embankment of horse manure. Between the rows of asparagus we put in a few seeds of radishes, and lettuce, which soon appear above ground and grow finely. The heads of asparagus begin to show themselves in about three weeks, and by the first week in April we have shoots long enough for cutting. They come forward more rapidly as the season advances, and we are enabled to have this delicious vegetable by this method,

* We have two articles on asparagus from correspondents which are laid over for want of room.—ED.

about a month earlier than the open bed. The advantages of this treatment are, that it saves the transplanting of roots, and the expense and trouble of a regular hot bed. The radishes and lettuce cost only the trouble of pulling.

MANURES—CHAPTER III.

In the first chapter, reasons were given for doubting the necessity of specific mineral manures as food for plants. In the second chapter it was shown, that the air furnishes the principal materials that enter into the growth or composition of all plants, and that it is out of the question to attempt to increase their growth by adding to the atmospheric food. The closing proposition was, that the art of cultivation consists, mainly, in preparing the soil by mechanical means, and then supplying the roots of plants with small quantities of manures, to feed or stimulate them.

What are these manures?

The chemical theorists say: apply to the roots such mineral elements or salts—potash, lime, magnesia, phosphoric acid, &c.—as are found in the ashes of the plant. We have already shown that this is as yet only theory, unsupported by facts. That potash, lime and plaster, which are purely mineral, do hasten the growth and development of plants, is true, but we think their efficiency is not due so much to their serving as direct food, as to the fact that they assist in decomposing, preparing, or retaining other materials, which do act as direct food or stimulants. But of this hereafter.

All past experience and observation show that the roots of all plants are benefited by having around them organic materials in a state of decay. By organic materials, we mean those substances which have constituted some previous plant or animal, having an organic structure.

Chemical analysis shows that the great bulk of all plants, as well as of animal substances, are made up of only four different elementary substances, and that these elements are the same in all. To illustrate: we may have five hundred or a thousand buildings, all different in structure, form, color, &c., and yet all these are composed essentially of wood, stone, brick, mortar, nails, and two or three elementary paints differently mixed or compounded. Any one of these buildings may be decomposed (torn in pieces,) and furnish the elements—the wood, stone, brick, mortar, nails, &c.—for erecting a very different structure. A church may furnish, at least a part of all the materials required for a new dwelling very unlike the church in appearance. The same kinds of materials are found in each, though in different relative proportions, and put together in a different order.

Now the same thing may be said of all plants. Four elements, (called oxygen, hydrogen, carbon and nitrogen,) when arranged together in a particular manner, and in certain proportions, make up the bulk of a corn-stalk. Precisely these same elements, when differently arranged together with a slight difference in the proportion of

each, constitute a wheat-stalk. A third combination, of the same substances, produces a clover-stalk. A fourth combination, produces the flesh of an animal. We could go on and state what has been actually demonstrated a thousand times, that all organic substances, (whether animal or vegetable,) are chiefly made up of these four elements, the difference in form, structure and sensible properties, being due, in part to the manner of arranging the materials together, and in part to the respective quantities of each of the four elements that enter into the composition of the several plants. A single illustration will show that the flesh of the ox, for example, is made of the same materials as the corn-stalk or grass-stalk, viz: If you feed an ox only upon hay, or only upon corn-stalks, his body will increase in size and weight; in other words, his flesh is made out of the materials in the corn-stalk or grass-stalk. So our own bodies are made of the elements that form the vegetable or animal food we eat.

These statements have a direct bearing upon the subject of manures. We are aiming to show, that from a similarity in composition, any one plant or organic substance may be used as food or manure for any or all of the various other plants. A mass of corn-stalks, when decaying, furnishes the elements needed by a growing wheat-stalk. So, also, a decaying piece of flesh will yield its own elements to assist the growth of new stalks of corn, grass or wheat. But for the old plant to give up its elements to the new, it is necessary that the old one should decay, that is, that its elements, its minute particles, should separate from each other, into so finely a divided state that they can be separately taken in by the leaves or roots of the new plant.

Animal substances furnish food more readily than vegetables, because the former decay more quickly, and sooner yield their elements.

In a former chapter we stated, that most animals and vegetables, when decaying, go off into the air in a state of minute division, and that only a small portion is found in any given bulk of air. But the intelligent cultivator will not let any of these decaying materials steal away from his grasp, to be lost in the great general storehouse, when they may be appropriated in the field of his neighbor or that of a stranger, or perchance, by forests or wild plants. The most successful cultivator is he who husbands all the decaying plants and animals within his reach, and stores them away in the soil, directly at the roots of his growing crops, where they are, of necessity, absorbed by the ascending sap and appropriated by the plant-stalks or grains, or by the roots themselves.

Here, in general terms, is the whole theory of manuring, viz: in taxing all useless or previously used organic materials, whether vegetable or animal, for elements out of which to increase the bulk of new forming crops. To return to the illustration drawn from the materials of dwellings; suppose a master-builder should undertake to erect a new building upon the site of an old one

of different construction. The economical builder would save all the old material possible, such as wood, stone, brick, nails, &c., and these he would use in the new structure, wherever they could be made available. Another, of less prudence, would, perhaps, suffer all the old materials to be carried away by other parties, while he would be at the expense of procuring new articles from abroad at a heavy outlay.

Just so, one cultivator allows his old stock of decaying straw or animal manure (which is only a mass of vegetables rendered more perishable by passing through the digesting organs of animals,) to decay upon the surface of the ground, and be stolen away by the atmosphere, or washed out by rains, while he sends away to Peru, or elsewhere, for guano or other fertilizers, which are neither more nor less than decaying animal or vegetable material. His neighbor, on the contrary, secures these same materials on his own domain, and saves as profit, what the other has expended for foreign materials, or done without, at the risk of far less remunerative crops.

But there is much to learn by every one, as to *how* these home materials are to be better preserved, how they are best applied to growing crops through the soil, which are best, what foreign additions to the farm manures may be made profitably, &c. These are practical topics which we are to discuss.

WHAT MANURES TO PURCHASE.

In order to answer several present inquiries, from those who are now looking about for their Spring fertilizers, we will here drop the regular order of discussion until our next issue. As a short answer we will here say, that the only manures we would recommend any one to purchase, aside from those obtained from the stables of animals, are those in which animal matter is the chief element.

Finely ground, *unburned* bones are probably the cheapest fertilizers, where they can be obtained in sufficient quantity at the present prices. They contain much animal matter, which if they are finely pulverized, is quickly yielded to growing plants. Bone *dust* or *sawings* can be applied directly to seeds or roots, where they are most effectual, without any fear of injury. The supply is, unfortunately, limited.

Next to bone-dust, we esteem good Peruvian Guano, which consists of partly decomposed bodies of birds and their excrements. We have seen no other brands of guano, so called, which we consider half as valuable as the Peruvian. Much, nay, most of the articles sold as guano, with sundry appellants other than Peruvian, are little better than a mass of *mineral* matter. There is a great deal of stuff sold as Peruvian which is not genuine. The smell or appearance is no guide in purchasing. It is just now a common practice, among the unscrupulous dealers, to buy the genuine, and mix it with poorer guanons, or other materials, and sell the whole in 'government bags' as unadulterated No. 1. The only safe guide is to get it from respectable dealers, who are

known to be reliable and to obtain their supplies direct, or from those who buy direct of the accredited agents of the Peruvian Government. No guano is genuine which will not lose one-third to one-half its weight when heated to redness in an iron spoon or on a shovel. Great caution is required in applying good guano, as it will destroy seeds and plants when brought in direct contact with them. The best plan is to pulverize and pass it through a sieve, then mix it well with five to ten times its bulk of dry earth, a week to a month before using, and put the mixture into the soil a few days before adding the seed; or the mixture may be sown broadcast as a top dressing. Used in this way it is a powerful fertilizer, for most crops, and on most soils. The general rules which we shall give in our next, for using various manures, will also apply to guano. The price is very high—far higher than it ought to be—but still we cannot do otherwise than recommend it, even at the present rates which the Peruvian Government is pleased to ask for it.

Next to guano, we would name those superphosphates made by dissolving *unburned* bones in sulphuric acid. A preparation of this kind, well and honestly made, is, doubtless, very valuable. We are not aware what manufacturers even profess to use *unburned* bones, besides DeBurg, of Williamsburg, and Coe, of Middletown, Ct. Almost all profess to use more or less Peruvian guano in their preparations. The more of this and unburned bones the better, because these furnish *organic* matter. The sulphuric acid employed in all genuine superphosphates may serve a useful purpose, in attracting and retaining ammonia from the air, and in fixing what is added in the guano. Others attach considerable value to the phosphoric acid developed in dissolving the burned bones, which enter largely into the ordinary manufacture of superphosphates. We do not, from the considerations given in the first chapter of this series.

A new preparation is now being made in this city, (or at Barren Island,) by Mr. Schwager, from the remains of dead animals. So far as this consists of animal matter only, it will be found valuable.

The preparations of the Lodi Company have met with considerable favor among many farmers, and so far as they consist of unmixed, *unwashed* human excrements, they are valuable.

A Brooklyn Company has been recently organized, for the purpose of preparing the night soil gathered in that city. As our Brooklyn neighbors are not blessed with Croton water, to wash out the sewers, cesspools, &c., this Company have the opportunity to gather large quantities of very excellent fertilizing matter, which we hope they will prepare with care, and furnish to farmers at reasonable rates.

The American Guano Company are preparing to introduce new deposits from islands in the Pacific. If their cargoes are examined by outside, uninterested parties, and average samples are analyzed by men, who, like Prof. Johnson, of Yale College,

do not furnish analyses 'to order,' but who have a credit and position to maintain, we say, if the importations of this or any other company are submitted to such tests, every cargo found to contain a large proportion of valuable organic matter, will meet with a ready sale, and prove a blessing to cultivators. Care should be taken, however, to have every cargo tested.

Before passing to the consideration of 'home-made' manures, we will add a word in reference to plaster, lime and ashes. On many soils the common plaster of Paris (or gypsum,) has proved valuable, and as it is a cheap article, it may well be tried, except by those who have already done so and found it of little value. As an absorber of ammonia in the stable and manure heap it is always valuable, where an abundance of good muck is not at hand; and it doubtless serves a like purpose when sown broadcast upon a field.

The alkalis—such as lime, unleached ashes, and cheap refuse potash—are valuable upon cold, wet, sour land, especially where there is vegetable matter which is not in a state of decay. As above stated, any plant must be actually decaying before it can yield its elements to a new plant. All the heavier, damp soils contain more or less roots and vegetable matter, which need the aid of alkalis to assist or hasten their decomposition. On open, warm soils, lime or ashes are often injurious after a year or two, since they destroy the vegetable matter faster than it is used by the growing crops.

In our next we shall speak of the manner of applying manures, and of the treatment of such as are made on the farm.

MECHANICAL PREPARATION OF THE SOIL.

NUMBER ONE.

This is a most important subject to every cultivator of the soil, whether he be farmer, gardener, fruit-grower or florist. Much attention has been given to manures—little to the *condition* of the soil upon which they are to be used. A plowing, a harrowing, perhaps a rolling, and sufficient draining to avoid the necessity of boats to get around the field, have, as a *general thing*, been the chief mechanical treatment aimed at. We hope, and expect to be able to show, that more depends upon mechanical treatment than even upon manures.

As stated at the close of the manure article, on page 29, cultivation consists in preparing the soil as a medium for roots to grow in, and feeding or stimulating them with manures. We do not of course depreciate the importance of selecting proper seed, subduing weeds, harvesting, &c. Manuring is discussed in another series of articles. We are here to treat of the preparation of the soil simply as a *medium* for the roots of plants, which includes all mechanical manipulations, such as plowing, subsoiling, and the various methods of pulverization, together with means of securing the proper degree of moisture, or *draining*.

PULVERIZATION.—Jethro Tull supposed the

soil itself entered into the plant to make up its substance, and hence he advocated "plowing, plowing, plowing, hoeing, hoeing, hoeing." Though wrong in theory, his practice was not so far out of the way, after all. He advocated pulverizing the soil so fine that its particles could be taken in by the roots of the plant; we advocate the same thing as necessary to fit the soil as a medium for the roots to grow in. In order to understand this point, let us examine the roots of any plant, say those at the base of a corn or wheat stalk. If we pull up a corn stalk rudely, we shall see only a mass of roots varying in size from a goose quill, or larger, to that of a small needle. But instead of pulling the stalk by hand, let the whole soil, for a space of two or three feet on all sides, be taken up and set into a box, or on a board. Upon this let a very gentle stream of water flow for a number of days, until, without a perceptible current, it washes away the whole of the soil. If we now examine the roots with a magnifying-glass, we shall find attached to every stalk an innumerable number of exceedingly small roots, by far the greater portion of them too small to be seen by the unaided eye. These minute roots or rootlets, and not the large roots usually seen, are the real feeders, or rather sap gatherers of the plant.

The point then, is, that the particles of a soil must be sufficiently *fine* to furnish a medium for these rootlets to rest and grow in. If we examine an ordinary mass of sand, on a very sandy soil, we shall find it composed of small sharp-cornered particles, each of which would appear like huge boulders when compared with the actual size of the rootlets of plants that are to make their bed among them, if a plant be properly supplied with sap gatherers. A clay, or clay soil, on the contrary, is made up of a mass of infinitely small particles, so small that they are not perceived when the clay is rubbed between the fingers. It will readily be seen, then, that a clay soil furnishes the best bedding, so to speak, for the fine roots to rest in. When pushing their way through this fine material, they are not compelled to grow around the rocks (particles of sand). Further on we shall see why a mixture of sand and clay—in other words, a *loam*, is preferable to a pure clay; but let it be kept in mind that there must be in every soil enough *fine material* to furnish a bedding or matrix for the infinitely small rootlets—the water or sap-gatherers of every growing plant.

No soil is fully adapted for growing plants successfully, which does not contain one-tenth to one-fifth of this fine impalpable material. This point can be tested in any soil, by stirring it in a vessel with eight or ten times its bulk of water, letting it stand five or six minutes, and then pouring off the water into another vessel. The water should float off one-tenth of the soil, and deposit most of it, after standing entirely undisturbed for a day or two. This would be the first test we should apply to the soil of any farm we were about to purchase, or test with reference to its capability of success-

ful cultivation. The best methods of securing this fine soil, such as plowing, exposure to frost, adding clay to sandy land, &c., we shall discuss at length hereafter,* leaving it for the time being, to take up a topic demanding immediate attention, viz. :

DRAINING.

Supposing the soil to be of the right consistency as regards fineness of texture, the next most important point is to see that it is free from substances deleterious or *poisonous* to the roots of plants. Take the best prepared soil, and diffuse through it a small quantity of dissolved arsenic, for example, and few plants would survive. One of the most productive causes of infertility in otherwise good soils, is the actual presence of a substance or substances poisonous to plants, as we shall show, *draining*, in connection with plowing, &c., is one of the most efficient agencies in removing these poisons. Let us understand this matter.

Put a quart of water into a tin pan, or other wide, open vessel, and dissolve in this, say a fourth of an ounce of common green vitriol (sulphate of iron†). The water will appear clear at first. Allow it to stand exposed to the air for a few hours, and a brown reddish "scum" will rise to the surface. The same thing may be seen in "iron springs," and very frequently in the water oozing from a hillside. The water is at first clear, but when it comes out to the air, the brown scum rises. This scum is formed by the union of iron (in the dissolved green vitriol) with the oxygen of the air. All colored soils contain considerable quantities of iron, and some of this iron exists in the form of green vitriol, especially in unworked soils, or those not exposed to the air. Now as in the vessel of water, and as in the iron springs, the air has the power of destroying the green vitriol in the soil and changing the iron to the insoluble state (per oxide), in which it rises to the surface and floats as a scum.

But green vitriol is a poison to plants. It is soluble in water and is thus taken up in the sap, where by exposure to air it is changed within the pores of the stalk or leaves and retards growth. We must repeat, that all soils unexposed to the air contain more or less of this poisonous form of iron.

This brings us at once to the point, that it is necessary to admit *air* into the soil to destroy or change to a harmless form, the iron poison. Upon the surface this change is usually effected by direct contact with the air, but deeper down the poisonous matter remains. The growth of clover is an illustration. For a year or two it may flourish well, but being deep rooted, it sends down its fibres, and reaches the poison below,

* Those who have on hand our Fifteenth Volume, will do well to turn back at this point, and read the article at page 268, on "Improving Sandy Soils," and the continuation of the same subject, on page 294, under the head, "Why Clay Benefits Sandy Soils." Next read, "Clay for Light Land," on page 56 of the same Volume. See also, "Clay as a Manure," Vol. xiv., page 232. The facts and principles developed in the articles referred to will be discussed in the present series.

† Green vitriol is a preparation formed by dissolving iron in sulphuric acid (out of vitriol), or more correctly, a union of sulphuric acid with oxide of iron.

which it sucks up, and the crop dies. On deeply cultivated (air penetrated) soils, clover will flourish for many years.

How shall we get the air into the soil? One method is to stir the soil deeply, by deep plowing &c., to admit air; this will be discussed hereafter. But however much we may stir the soil, the air cannot pass freely through the pores, that is between the particles, while the interstices or pores are filled with water. One of the first axioms the schoolboy learns, is, that "two bodies can not occupy the same space at the same time." It is hardly necessary to say then, that if we want the air to circulate freely in a soil, we must first free it from standing water. Further reasons for draining soils, usually considered dry, together with the modes, expenses and profit of draining, will form the subject of future numbers.

HINTS ON TOBACCO GROWING.

We are loth to publish anything to promote the cultivation of a plant so deleterious and so productive of wide-spread evil as we believe tobacco to be. But the interests of a large class of readers—a class recently greatly augmented, and their numerous calls for information, on this topic leaves us no choice in the matter. Though tobacco is grown in a few places in this State, and other Middle States, and in still larger quantities in Connecticut and Massachusetts, it forms a staple crop only in Maryland and Virginia, and the States lying immediately West. That seems to be the favorite belt of our country, where this plant attains its perfection, and where it can be grown with the largest profit. In these States it is a favorite crop with a large class of planters, and as it is usually in lively demand, it forms a reliable article on which to raise money, or to exchange for commodities not grown upon the plantation.

However hardy the plant, as it is only cultivated for its leaves, the whole process of growing, curing, and preparing for market demands more skillful management than almost any other crop grown as a staple in the country. In no crop, does so much depend upon the intelligence and skill of the cultivator. In no crop, is there more difference between a prime and an inferior article, and none in which the prime bears so small a proportion to inferior grades. We believe that the average returns, from the large class of plantations, may be more than doubled by skillful management.

SEED BEDS.

The first business after procuring good seed is to start the young plants. Seed beds may be prepared under glass or in the open air. Where the season is short and well advanced plants are desirable as soon as the frosts are over, it is better to start them in a gentle hot bed under glass. The open seed bed, however, is the more common method.

The place usually selected in Virginia, is some sunny exposure in new land, sheltered by woods. As soon as the frost is out of the ground in the Spring, the leaves are

raked off, and the roots are grubbed up. The whole space is then covered with wood and brush, two or three feet thick, and burned over. This gives an abundant dressing of ashes and fine charcoal, which is to be thoroughly worked in to the surface soil, clearing off all stones and roots. The ground should be laid off into beds about four feet wide, and the surface thoroughly raked, breaking all the lumps, and making the ground as fine as possible. The beds should be raised a little on dry land, and still more if it is moist. A pipe-bowl full of seed will be sufficient for sixteen square yards of bed. After sowing the beds they are usually covered with brush as a protection against frost. When the plants are up, a dressing of fine manure to quicken their growth, is of great service. As the whole success of the crop depends upon these plants, they should have careful attention, and be kept free of weeds. When the danger of frosts is over, the brush is removed, and the plants are followed with weeding and frequent stirring of the soil, until they are ready to be put out in the field.

It will be seen, that the essential things in this method are warmth, a seed bed of rich fine mold, and protection against frost. All these may be secured in the garden under glass with little expense or trouble.

TRANSPLANTING.

The plants will be ready for this operation about the last of May or first of June. They should be put out during a rain, or just after a rain has fallen. If the weather does not favor, the whole bed should be thoroughly showered with a watering pot, so that earth will adhere to the roots, when the plants are taken up.

SOIL AND SEASON.

The best tobacco is raised upon rich, light alluvial loamy land, or such as has been recently cleared and brought under cultivation. It requires a warm, mild season, with clear bright weather in the latter stages of its growth, to give it its highest aroma. It does remarkably well in the rich lands in the valleys of rivers. Almost the only districts in which it is grown in New-England, lie in the valley of the Connecticut. Though these are the best localities for the plant, it will do well in almost any well drained land by thorough manuring.

FIELD CULTURE.

The fields selected for this crop should be of the best quality, either newly cleared and virgin soil, or old ground, well furnished with fertilizers. A clover fallow is a good preparation for it. The ground should be previously prepared by fall plowing and by cross-plowing and harrowing, in the Spring, so that it may be of the finest tilth. Lay it off into rows three, three and a-half or four feet apart, running each way. Every square thus made is to be scraped with a hoe, so as to form a hill, in which one plant is to be set. If the plant is destroyed by worms or drouth, it must be replaced immediately by another from the seed bed.

The cultivation to promote growth is much like that of the Indian corn. Unless the ground has been previously plowed deep,

it is particularly important that the ground should be worked as deeply as possible between the rows in the early stages of the growth of the plant. This will make the soil very pliable, so that the roots will readily penetrate it, and receive their appropriate nourishment. Deepplowing and cultivation are also a safeguard against drouths. All weeds should be kept under and the more frequent the tillage, other things being equal, the better will be the crop. No more ground should be planted than can be hoed or cultivated four or five times in a season. It pays as well as upon the corn crop. As the plant approaches maturity, care should be taken to keep so near the surface, as not to injure the roots. These will completely occupy the soil by the last of July.

PRIMING, TOPPING, SUCKERING AND WORMING.

The plant is not grown for its seed, like cereals, or for fodder like the grasses, but for its eight or ten broad leaves. So we have to interfere with its natural growth, deprive it of its flower stalk and small leaves, and force all the energies of the plant into the parts most desirable for market. As the plants begin to approach maturity they throw out on the top a blossom bud called a button. This must be removed with such of the leaves, as are too small to be valuable.

A shoot is also thrown out at the foot of every leaf stalk which must be carefully pinched off, so as not to injure the large leaf.

The topping is best done by a measure. If six inches of the top is to be removed, the topper takes a stick of that length, and applies it to every plant. Prune six inches, and top to eight leaves is a good rule for plants of the average height. If plants are unusually large in some rich spots in the field, they may be allowed to mature ten or twelve leaves instead of eight. If the plants are smaller, they should be restricted to a smaller number. The crop should be wormed, and suckered, at least once a week. In some seasons the tobacco-worm is very destructive, and constant vigilance is necessary.

CUTTING AND HOUSING.

Some three months after the plants are set out, they begin to assume the spotted and yellowish appearance which indicates maturity. We now approach a more difficult part of the management of this crop, where the closest attention of the cultivator is required. A few day's neglect, at this stage of the business, deprives him of his profits. To save a heavy crop, requires both energy and activity. The most careful hands should be selected for cutters. The plants are cut with a knife near the ground, and are allowed to lie in the sun, for a few hours, until they fall or wilt. Correct account of the number of plants cut should be kept, so that the barn in which they are to be housed may just receive its complement.

The tobacco after it has fallen, is strung upon sticks and carried to the barn in wagons. Here the sticks are arranged so as to admit of uniform and gradual drying by artificial heat. The proper disposition of the sticks is a matter to be learned by experience.

CURING.

The day after the plants are housed, the barn is heated to about one hundred degrees of the thermometer. It is kept at about this temperature, for a day and a-half, or two days, when the tops of the leaves begin to curl. Now the planter must be on the alert. If he is careless, and the fires are made too hot, the aromatic oil passes off with the sap, and smoke, and he has a house of inferior tobacco, that he must sell at a reduced price. If his fires are kept too low his tobacco gets into a clammy sweat, and the oil escapes. There is much more danger of the former than of the latter evil. The fires should now be kept regular and steady, with a gradual increase of heat, so that in the course of forty-eight hours, the mercury will stand at 150° to 160°. It may be kept at or about that temperature until the tobacco is cured. Much of the difficulty in this process might be obviated by better constructed barns, and a heating apparatus. These might be easily arranged so as to avoid all the smoke and give the planter a complete command of the temperature, so that it should not vary five degrees from the most desirable point in the whole process of curing. The greatly enhanced price of a well cured article would soon pay for the extra expenditure, necessary to procure the right kind of barns and heating apparatus. The difference in price is apparent, when we consider that Connecticut Seed leaf tobacco is quoted at forty cents, wholesale price, for perfect, and Kentucky at fourteen to twenty cents. There is always a wide range of prices for tobacco from the same vicinity, depending upon curing, much more than upon cultivation.

STRIPPING, PRICING, &c.

After the curing process is finished, which usually takes two months, and which is indicated by a dry stem, the leaves are stripped from the stalk. Damp weather in the Winter is usually taken for this purpose, to avoid breaking the leaves. They should never be stripped until the main stem is thoroughly dry. Tobacco once hanked too wet cannot be dried, and if boxed too wet it will spoil.

While stripping, the leaves should be assorted into three different parcels; first, the sound, whole, fine, good colored, for perfect wrappers; secondly, the very light yellow, and that with the large holes and thick leaves, for imperfect wrappers; and thirdly, the balance for fillers. The imperfect will bring about one-half the price of perfect, and the fillers about one-fourth.

Each hank should contain about as many leaves, as may be clasped easily with the thumb and finger of a small hand, the butts all placed even, and then wound as near the end as possible with the binder.

The hanks should be carefully bundled in double rows, butts out, and tips in, and lapping. The bundles should be kept covered, until the butts are dry, and then boxed for market.

The high prices for tobacco which prevail will induce a large cultivation of this plant. It is the better qualities that are most in demand for cigar-making. Planters should rather seek to improve their methods of cultivation and curing, than to plant more acres.



PIERMONT—THE RESIDENCE OF GEORGE PEPPER NORRIS, ESQ.
Brandywine Heights, near Wilmington, Del.

Above we present a view of the residence of Col. Norris, the Corresponding Secretary of the Newcastle County Agricultural Society. In this office he is successor to the late Hon. Chauncey P. Holcomb, whose valuable contributions to the pages of this journal will be remembered by many of our older readers. We are glad to know the vacant Secretaryship is so well filled. The mansion represented here, is on the heights back of Wilmington, known as "Brandywine Heights." The Brandywine Creek enters the Delaware River near this point. Historical readers will recall the disastrous defeat experienced by the American forces, Sept. 11th, 1777, which took place a few miles up this creek, after which the British entered Philadelphia. From the above mentioned residence there is a magnificent view, embracing portions of the three States of Pennsylvania, New-Jersey and Delaware.

FURTHER OFFERS OF SEEDS—FREE.

In consideration of the general satisfaction expressed by a multitude of subscribers with our method of sending out the Sugar Cane Seed, we have determined to make free *distribution of seeds* a prominent feature hereafter. It is too late this season for us to obtain a sufficient supply of reliable seeds of *rare* plants, flowers, &c., but next Winter we hope to be prepared to offer quite a variety.

Whenever seeds are offered free by us, we trust no one will have the least hesitancy in sending for them, for we make no proposition of the kind which it will not be a *pleasure* to carry out.

Below we name some seeds which we can distribute, without charge, the present month, probably to all who desire them, and if our supply holds out, they will be sent also during the first week or two in April.

The varieties of Corn and Oats offered are not entirely new, but they have been proved to be *good* at least. In some places they are abundant, and can be obtained in quantities. But we have had many inquiries for them, and our object extends only to furnishing small quantities for experiment, or for producing seed for another year.

Before sending for either kind, please read the directions for "Seed envelopes" page 69.

N B.—Any one sending for more than one kind of Seeds, will do well to provide separate envelopes, and mark the kind desired in each upon the margin.

THE KING PHILIP OR BROWN CORN.

Since publishing the article on this variety (on page 9), we have conversed with and received communications from a number of persons who have tried it, who think we did not speak of it in sufficiently high terms. Several who raised it last season, say that it greatly exceeded other good kinds in the amount of yield per acre. The stalk is quite small, and to one accustomed to the tall Western or Southern varieties, a field of this makes a poor show, at least until it is put into the crib. It may be planted much closer than other varieties, and thus produce a larger crop. This much is certain, it grows very rapidly, and ripens *early*, which in many localities are important considerations. Some think that in this latitude it should not be planted until June, in order to get a better growth of fodder. Several persons report that last year it ripened in about 90 days from planting. A Long Island farmer says he took off a crop of early potatoes last Summer, and then planted this variety of corn on the same ground, when it ripened well. As a general thing we should say, plant at the same time as other varieties of corn, but plant closer, say in hills 3 by 2½ feet, or 3 by 3 feet

We think it worth a trial, at least by all who can readily obtain the seed. Several parcels have been sent out by the Patent Office, during a year or two past, and there must be considerable quantities in the country. We see it advertised in a few agricultural papers, including our own.

We have secured sixteen bushels, which we will distribute *free* in small parcels to such of our *subscribers* as desire it.

Those near by can call at our office. For those at a distance we are putting it up in packages of two sizes—in one as many kernels as will go in an envelope under *one* 3 cent postage stamp, and in the other size as many as will be covered by *two* 3-cent stamps. Any old or new subscriber wishing this will please forward a *ready directed* envelope of the ordinary size, putting on one or two postage stamps—according as they want a small or larger package. The kernels are large and heavy, and only a small number (about 25) can go at single postage rates.

SWEET CORN.

There are two good varieties of this, "Darling's Extra Early," and "Stowell's," which are worthy of very general cultivation. They have been described in our former Volumes, and are somewhat scattered over the country, but may be more widely distributed to advantage.

Darling's Sweet is quit. early, small stalk and ear, and moderately productive. Its greatest recommendation is its early growth.

Stowell's Sweet—erroneously called Stowell's "Evergreen," yields a large stalk and ear, and is a good producer of both fodder and grain. It comes slower to maturity than the Darling, and forms an excellent succession to that variety, as well as being valuable for general cultivation. A small parcel of either, or both of these varieties, can be had free by subscribers on application. A 3-cent stamp will cover about 40 kernels.

WHITE POLAND OATS.

This variety has proved valuable for general cultivation. We have a quantity which weigh 42 lbs. to the bushel. They are not *rare*, though by no means generally known. We offer them on the same terms as above. A 3-cent stamp covers 250 to 300 grains.

GOOD ADVICE.—If you wish for a clear mind, strong muscles, and quiet nerves, for a long life, and power prolonged to an old age, avoid all drinks but water, and mild infusions of that fluid; shun tobacco and opium, and every thing else that disturbs the normal state of the system; rely upon nutritious food and mild diluent drinks, or which water is the basis, and you will need nothing beyond these things, except rest, and the due moral regulation of all your powers, to give you long, happy, and useful life, and a serene evening at its close.

Domestic economy is a science—a theory of life, which all sensible women ought to study and practice. None of our excellent girls are fit to be married until they are thoroughly educated in the deep and profound mysteries of the kitchen.

CULTURE OF BROOM CORN.

In reply to the inquiries of several correspondents on this subject, we would say that the selection of a soil adapted to it, and its proper preparation to receive the seed are of prime importance. It is sometimes said that any soil in which Indian corn will grow, will answer for broom corn. This is hardly true. Cold, stiff and wet land must be avoided, and so must that infected with the roots or seeds of weeds. Broom corn is naturally slow in its early growth, and needs a warm, rich and finely pulverized soil. Nor will it always succeed without a little help from some concentrated fertilizer, as Guano, &c. And after it has got a start, it can not contend with weeds, like Indian corn. If the farmer is so unwise as to plant in a soil full of "foul stuff," he must expect to labor hard and perseveringly to subdue the weeds, or they will subdue his Broom corn.

We say, then, choose a warm, rich, clean portion of the farm, alluvial land, if possible; manure, plow and harrow as for Indian corn. Take special pains to get the soil in fine tilth. Plant as early as possible—in this latitude, from the 1st to 15th of May—in rows three to three and a half feet apart, and in hills from one and a half to two feet apart. Pass a light roller over the hills after planting. About a dozen seeds should be planted in each hill, and at the second hoeing the plants should be thinned out, leaving only eight to a hill. Many experienced farmers use a little Guano, poudrette or ashes, to give the corn an early start and to keep it ahead of the weeds. This should be done with a careful hand, or the fertilizer will make a clean sweep of the brooms. The summer treatment of this crop is precisely like that of Indian corn. The horse cultivator should keep down every weed. At the last hoeing, the plants should be hilled up a little.

In September, when the heads are matured the crop should be "tabled." This is done by going through the field, row after row, and breaking down the top of each plant, so that it will lie in a horizontal position. The crop is then ready for harvesting. Before severe frosts come on, go through the rows and cut off the brush with a sharp knife, just above the upper section, and spread them in thin layers on the barn floor, or on piles of loose rails or poles, where the air can circulate freely through them. When thoroughly dried, they may be cleaned of seed by machines, many styles of which have been made for this purpose. A correspondent of the Cultivator describes a cheap instrument, which can be made by any farmer, as follows: Nail a plank, about three-fourths of an inch thick and ten inches wide, to a stationary bench, letting it (the board) run above the bench about a foot. Then take a saw and make teeth in the end of said plank, like those of a comb, and we are ready for operations. Take three or four straws at a time and draw them across the comb till they are clean, pressing a little with one hand, while you draw with the other, and so proceed until all your brush is ready for the broom-maker.

THE ONION—*ALLIUM CEPA*.

Though Mahomet put this vegetable under bann, and it is looked upon with suspicion in aristocratic circles, it is still a popular article of diet among all classes. Though the Mussulman may not enter his mosque when his breath is tainted with the infection of this plant, he thanks God and the prophet, that Friday comes but once a week, and on secular days makes up for his fast. Though the savor of onion is not *au fait* at a fashionable party,—parties are not given every night in the week,—and both beaux and belles indulge in the interdicted diet on their leisure days. If caught at home on cloudy days with unsavory breath, it indeed gives a shock to their sensibilities, and they make strong resolutions for the future. But alas for the weakness of human nature, such resolves are impotent, under the mighty spell of this vegetable. Its sorcery mingles in all French cookery, entering into the body of soups, and curling heavenward in its vapor, lurking in the dressing of fowls, and forming an indispensable dish in all roasts and boils. Half the stomachs in the city would not know that they had dined without onions. The world will have onions and pay for them.

This being the case, farmers and gardeners are anxious to raise them, and no crop pays a more steady and uniform profit than this. With the millions of bushels raised, the market is never glutted, and as a good quality of the article keeps well, it always brings a remunerative price.

VARIETIES.

Though these are quite numerous, the sorts cultivated among us are principally the *Large Red or Wethersfield*, *White Silver skinned*, *Yellow Dutch*, sometimes called *Strasburg or Flanders*, *Portugal or Madeira*, *Large Spanish*, *Potato or Under-ground Onion*, and the *Welsh or Tree Onion*. The first two are more generally raised than the others, they being the best known and commanding the best price. The white Portugal grows to a large size, frequently reaching five, six, and sometimes eight inches in diameter, but does not yield so many bushels to the acre, and does not keep as well. For the use of ships' crews and for export, the red is the best variety to cultivate. For home use, and the supply of the city and village markets, the silver skin and the yellow are the best varieties. They usually bring a higher price.

PREPARATION OF SOIL.

No crop pays better for a thorough preparation, and for high manuring. As a large part of the expense is for the labor of weeding and tending, it should be the aim of the cultivator to get a maximum crop from every acre that he devotes to this purpose. The wants of the plant are a fine deep light soil, through which the roots may easily penetrate. Accordingly, when a piece of ground has once been broken up, and cleared of stones and roots for this crop, it is common to keep it in onions for a long series of years. Ten and fifteen years are common terms, and we are told that fields in Wethersfield

have been cropped with onions for a half century.

Of course such constant cropping demands large supplies of manures, and where the aim is to raise six or eight hundred bushels to the acre, it will pay better than to have a succession of crops, the most of which will not pay a fourth part of the profit of onions. It is the best way to work in the manures in the Fall, and to turn them in with the plow twelve inches deep. The quantity of manure to be applied, and the depth of the plowing, must depend something upon the previous treatment of the land, and its previous condition. We would increase the depth of the plowing with the quantity of manure added. We have not so much faith in the application of special manures to this crop as some have. We have never found any difficulty in getting excellent crops with stable manure, and that of the pig sty, and such composts as we have been able to make upon our own premises. Any man who makes his own manures, is safe in plowing in thirty or forty cords of stable manure or compost, in the Fall, for every acre. In the Spring we would cross-plow, not quite so deep, and harrow, so as to make the tilth as fine as possible. Now, the whole ground is to be raked over with garden-rakes, and cleared of all small stones and clods. If top-dressings of ashes are used, we would put them on previous to harrowing.

SOWING THE SEED.

The old process of sowing by hand will not pay. The work is better done with a brush seed-sower, if you plant in drills, or with an onion-planter, if you plant in hills. Where this crop is much cultivated, they have a machine for the purpose, which drops the seed with perfect uniformity, two rows of hills at a time, covering and rolling at the same time. With a brush seed-sower, a man can plant about as rapidly as he can walk. With this it is easy to drill in with the seed any fine fertilizer like bone-dust, ashes, or superphosphate of lime. The latter, if you can get a genuine article, will give the young plants a good start.

CULTIVATION.

When the plants begin to show themselves, the push-hoe should be immediately run between the rows, to loosen the surface of the soil, and to cut off the springing weeds. If weeds have been kept under in former years, they will not be very troublesome. If they have been allowed to go to seed, the cultivator has a job before him. A week or ten days after the plants are up, the push-hoe should be run through again, and the rows be thinned and weeded. If you desire large onions, thin out to six or eight inches apart. If you want them smaller, and more of them in bulk, let them grow thicker. The usual number of hoeings in the season is four, but we think six would pay better than any less number.

KIND OF LABOR EMPLOYED.

A saving is frequently made in the expense of cultivation, by securing the labor of boys in weeding. The work does not require great strength or skill, and a smart lad

a dozen years old or more, will accomplish nearly as much as a man, at less than half the wages. Boys are sometimes hired from the city by the Connecticut farmers for a few months to tend this crop.

CULTIVATION WITH OTHER CROPS.

In Rhode Island, a favorite mode of cultivation in the field is to sow onions and carrots in alternate rows. The onions are out of the way by the middle or last of August, when the carrots have the ground. This root, it is well known, makes the most of its growth in the latter part of the season, and is left out with safety until the middle of November. In this way five or six hundred bushels of onions, and as many or more of carrots are frequently grown upon an acre. This is a good method, if we manure high enough to keep the land in good heart.

In this region, and all along the seaboard, sea manures are largely used for this crop, and are found to give excellent results. Seaweed and kelp are frequently plowed in, in the Fall. A compost of marsh-mud and fish, made the previous Summer, and applied in the Spring, gives good results. Sea-sand spread upon heavy soils is found to be an excellent dressing for this crop. By the sea shore, a compost of fish and muck is probably the most economical manure that can be applied.

The mode of culture pursued by market gardeners is somewhat different. With them it is a matter of prime importance to get onions into the market very early, before the harvests of field culture are gathered. They take bulbs or pips of a previous year's growth, raised for the purpose, and set them out as soon as the ground opens in Spring. These mature very early, and are mostly marketed in June and the fore part of July. They are tied up in small bunches, with the green tops on, and bring two or three times the price of field onions. The ground is then devoted to some other crop, very frequently to late cabbages. The seed for making the pips is sown very thick, so that the bulbs cannot grow large. Potato and the top onions are also used for this early crop.

But this course can only be pursued by a few near cities and villages. The field culture may be indefinitely extended, and the demand is likely to exceed the supply for generations to come. It is an excellent crop for all farmers who live within an hour or two of tide-water, and have facilities to ship them to market by sloops and propellers. It is far more profitable than Indian corn, and pays better than any ordinary farm crop. A common yield on land that will grow fifty bushels of corn to the acre is four and five hundred bushels. A large yield is six hundred bushels, on better land. Eight hundred are sometimes grown with high manuring and extra care.

Horne Tooke was the son of a dealer in poultry, which he alluded to when called upon by the proud striplings of Eton to describe himself—"I am (said Horne) the son of an eminent Turkey merchant."

Always have your matches and lamp ready for use in case of sudden alarm.



FRENCH MERINO BUCK, TIPPECANOE.

The Property of Mr. J. Goes, Cleveland, Ohio.

ORIGIN OF THE MERINO SHEEP.

Columella, a Roman agricultural writer in the time of the Cæsars, states that the fine woolled Spanish sheep were originally imported from Africa. Some suppose that these sheep were of the same coarse hairy breed as are now known among the Arabs and along the African coast of the Mediterranean. But on physiological principles, this idea would be absurd. As well suppose that the Congo negro would be changed in a couple thousand years to a fair-faced European with straight blonde hair and blue eyes.

Wools of the finest quality are now produced in the districts of Tozar, Coffa and Nafta, and in the Nezzab, a district lying south of the main Atlas of Algiers. This wool is used by the Persians and others in the manufacture of those beautiful shawls and other fabrics which bring so high a price in commerce.

We have no recollection of ever seeing any of the sheep which produce the above fine wools, but if really *sheep*, and not *goats*, would it be too much to suppose that they were the originals of the Spanish Merino of our day?

COWS KILLED BY EATING "BARLEY SPROUTS."

Several instances have recently come to our knowledge of injury resulting from feeding cows with "sprouts" of malted barley with which are mixed other light matters, such as imperfect grains, &c., blown out in cleaning. We hoped ere this to have investigated the subject more fully, but not having time as yet, we present the following extract, and request further facts and particulars from our readers:

EDITOR AGRICULTURIST:—Having lost a very fine cow this winter, as I suppose from feeding barley sprouts, I send you a few facts relative to

the case, which may perhaps be of interest to some of your readers. I commenced feeding one peck of sprouts (scalded, and allowed to steep until cool), twice each day. After the first few days, the animal seemed to lose all relish for *this*, although she ate heartily of other kinds of food, and about this time began gradually to lose the use of her limbs (showing a wild glaring of the eyes), until at the end of a few weeks she became entirely helpless. She lived about five weeks after I commenced using this feed, and she had eaten in all about seven bushels. I have heard of several cases of the loss of milch cows from the use of this feed, and with precisely the same symptoms in every case.

WM. P. TOMPKINS.

SCARSDALE, N. Y., Feb. 20, 1857.

HINTS ON OX-YOKES.

To the Editor of the American Agriculturist:

For the benefit of farmers and all others who use oxen, I send a hint or two on ox-yokes. From experience and long observation on the structure of ox-yokes, I am certain that one-third of the service of these noble animals is lost, for the want of a better formed yoke; to say nothing of the discomfort they suffer for the want of one constructed on a different principle. Every one who will give heed to the following suggestions may obtain one-third more force and endurance from them, besides adding much to their comfort, and save himself an annual expense for whip-lashes sufficient to procure his Agriculturist.

All the ox-yokes in use have too *narrow* a bearing on the ox's neck. * * * These yokes are a disgrace to the age, a relic of barbarism, mere cattle-tamers or ox-killers, and should be used only for fire-wood. The kind of yoke needed is one with a *wide, flat* bearing. In no case should the bearing be less than *eight inches wide*, dressed entirely flat, with the edges moderately rounded. This bearing should not be notched on the neck, as we see in some instances, but should be circular between the bow-holes, and dressed roundy on the corners near the bows, so as not to wrench the neck when drawing in an indirect line. The

bow-holes should be six inches apart on the top of the yoke, and about seven and a half on the under surface of the yoke, where it bears on the neck. The object is to give room between the neck and bows sufficient to protect it from being wrenched in unequal drawing on rough surfaces and otherwise. And this room is ever needed, let the surface and drawing be what they may. To make a yoke of this kind, you must have a stick of timber eight inches square, of sufficient length for your yoke. Choose which side you please for the top of the yoke, strike a line the whole length of the stick in the centre on the top surface. This will be the range for the bow-holes. Strike a line across this seven inches from the end of the stick. Where this intersects the first line, the first bow-hole will strike. Another line as before, eight inches from the last, will mark the second bow-hole; then another line one foot from this for the staple; and one foot from this for the third bow-hole; and again eight inches from this for the fourth bow-hole. Bore from the top with a two-inch augur, making a run of one and a quarter inches right and left from a direct line across the stick; after which, dress it off in the most tasteful and durable manner, taking great care to make the bearing on the neck as above directed. Use two-inch bows, dressed perfectly round. You may work cattle in this kind of yoke all kinds of weather, if you choose, without ever making their necks sore, and you may work them six days in each week for months, if you choose, without their getting broken down, and being compelled to turn them out, as is often the case.

JOHN D. TEFPT.

OVER-FEEDING PLANTS.

A correspondent writes:

... I have found by experience that young fruit trees and some flowering shrubs were often injured by over-feeding. For many years I lost all my cherry trees. I planted them around my yards, and gave them the richest soil I could gather. They grew finely; some bore good crops. In a few years they split from the branches to the roots, and in a few years more they died.

I found in journals, that this splitting was supposed to be induced by the heat of the sun, for they generally occurred on the southwest side of the trunk, where the sun shone the hottest. I soon observed, however, that cherry trees never split when they grew on a poor soil; so when I discovered them to check, I at once removed all the soil for five or six feet around them, and supplied its place with loam or poor gravelly matter. Since then, not one has split, and I presume they never will. When cherry trees are large and old, they may be safely manured, for then their energies are spent in bearing fruit, and they grow but slowly.

Pear trees are more easily surfeited than cherry trees, but it affects them differently. When over-manured, the leaves coming out of the new wood at the ends of the twigs, instead of being one inch or more apart, come out in a cluster or bundle, and the limb ceases growing at once.

A few years ago I procured a fine young pear tree, and wishing it to grow and bear as soon as possible, I planted it in the range of the lowest point of my barnyard, so as to receive the drainings of the manure. The new leaves all over it came out in thick bundles or whorls. I immediately removed all the earth from over the roots and filled the space with yellow loam, and turned the drain from it. In two weeks the new wood shot out and put forth its leaves, nearly two inches apart, and made a fine growth. I once manured an apple orchard of seventy trees, and every twig

threw out the same whorls—wood ceased growing. The tips of all dried, and I lost one year's growth. So I find trees as well as men and other animals can be over-fed and surfeited.

JAMES FOUNTAIN.

JEFFERSON VALLEY, N. Y., Jan. 25, 1857.

SPAYED COWS.

To the Editor of the American Agriculturist:

It is now nearly thirty years since a gentleman in New-Hampshire called the attention of the public to the subject of *spaying cows*, for the purpose of having them produce an uninterrupted flow of milk during their lives.

This gentleman's communication was based upon facts—communications made to him by a Mr. Wynn of Natchez, and his own observations while staying with Mr. Wynn, who had two cows then in milk, which had been operated upon about three years before, and he stated to this gentleman that they had never varied in the quantity of milk during that time, except when such variation was caused by a change of food, and gave it as his opinion that they would continue that flow of milk as long as they lived.

I have since that time seen it stated in some agricultural paper that the full flow of milk not only continued, but that the *quality* was much improved.

If the foregoing statements are correct, how desirable it would be for families which are so situated that they can keep but one cow, to have her in this situation.

Mr. Wynn recommended that the proper time for performing this operation was about three weeks after producing their third calf, as they then, as a general rule, produced their greatest quantity of milk, which quantity might be continued, with proper food, as long as the cow continued in good health.

Mr. Wynn stated that he was induced to make this experiment upon his cows by the perusal of English magazines which contained accounts of the plowing matches in the southern counties of England, where most of the prizes were awarded to plowmen who worked *spayed heifers*.

Many of your readers may recollect the high encomiums that were published in agricultural and other papers a few years since, respecting a drove of young *beef cattle* taken to the Brighton market by George Shaffer of Scottsville, Monroe county, N. Y. They were pronounced the *finest* drove of young *beef cattle* ever driven to that market, and they were *spayed heifers*.

N. GOODSSELL.

NEW-HAVEN, Feb. 17, 1857.

We have ourselves no experience in spaying cows for milk, as described above; as it has not yet been adopted, so far as we know, to any extent in the large London and other dairies in Great Britain, we rather doubt its success in the *long run*. It would be economy undoubtedly to all who only wish to keep cows for their milk, as the production of calves to such is attended by considerable trouble and loss. A friend of ours in Massachusetts, is now making an experiment with spayed cows. We have written him to ascertain his success and hope to get an answer for publication.

As to spaying heifer calves for growing up to fatten, this is quite common in Europe, as well as pigs and lambs. Spayed heifers for work are not so common, as they do not grow so large as oxen and are therefore not capable of doing the rugged heavy work generally demanded of cattle.

THE CHINESE SUGAR-CANE SEED—HOW TO ECONOMIZE IT.

To the Editor of the American Agriculturist:

As you have taken some interest in distributing the seeds of the sugar-cane, and given the general direction to cultivate similar to Indian corn, I beg to add a word or two.

I found from my own experience, and that of others, that where the plant has space and the ground is good and well manured and cultivated, it tillers out from the root, and each seed will produce from six to a dozen canes. By planting from one to three seeds in a hill, and thinning out to one plant, there is a great saving in seed; and as seed is scarce and high, those who have an ounce will find they can plant 1,400 hills by putting one seed in a hill; and as it will tiller out according to the strength of the ground, an ounce of seed, judiciously planted, and cultivated with care, will produce from 5,000 to 15,000 canes, that will average 1½ pounds each, and produce 1½ to 3 or more ounces of seed.

The ground should be dug or plowed *deeply*, and the hills three feet apart each way. The plant requires light and air to perfect its saccharine juices.

J. C. THOMPSON.

TOMPKINSVILLE, Staten Island, Feb. 16, 1857.

REMARKS.—We do not advise using the seed so sparingly. It is not certain to "tiller," though we have seen several stalks from one seed. Four or five seeds, or more, should be put in a hill. We have sent to every applicant, (some 15,000 so far,) about 300 seeds. These will plant 60 hills, with five kernels in each, or a drill 60 feet long with five grains to the foot. It is scarcely worth while to economize the seed beyond this in small experiments, and for extended culture we advise to put 6 or 8 seeds in a hill, which will only require about 1½ pounds to the acre.

COOKING DRIED APPLES.

To the Editor of American Agriculturist.

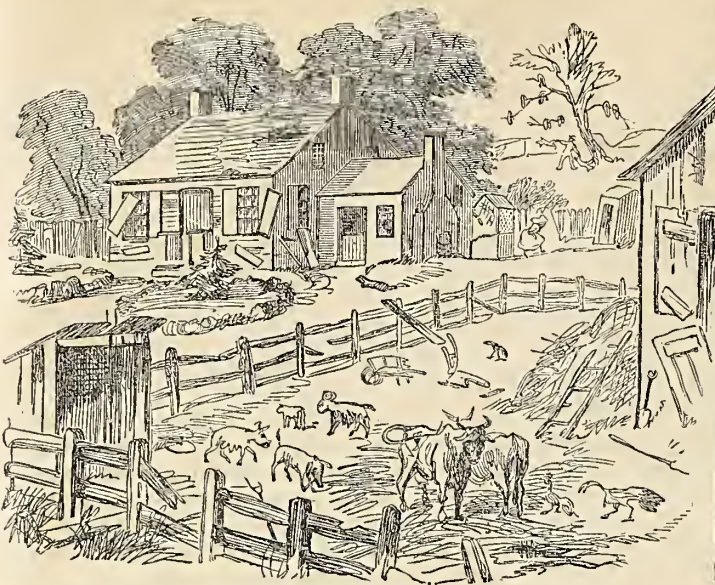
You were kind enough to compliment my apple sauce and apple pies, and request me to send a note of the process of making them. The sauce was made by simply boiling the dried apples soft, and rubbing them through a common colander, which gives a nice pulpy mass, and separates all remnants of cores, skins, and "hard spots." The sauce is then seasoned to suit the taste. A little cider boiled down one half or more, in Autumn when new and sweet, adds to the good flavor of any kind of dried apple sauce.

The pies were made of the same sifted sauce, seasoned and put into raised crust. A very good crust, and one which is far more digestible and nutritious than that literally full of fat (shortening) is made as follows: Dissolve half a teaspoonful of soda in a tea-cup full of sweet milk. Take enough flour to thicken the milk to a stiff dough, mix well with it a teaspoonful of cream of tartar, and a table-spoonful of butter or lard. Knead the whole well together, roll thin, put in the sauce and immediately bake in a quick oven. If you think the above particulars will be new to any of your lady readers, you are of course at liberty to print them.

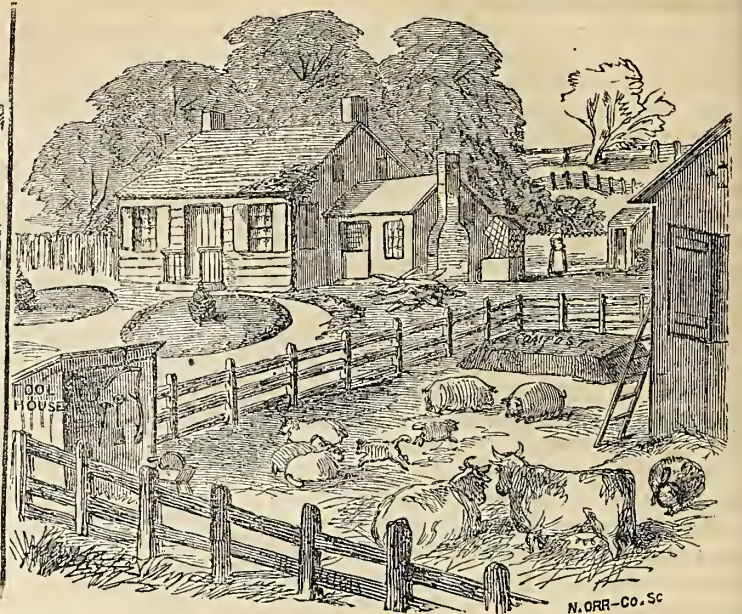
HARRIET.

Taste is as well displayed in placing the dishes on a pine table, as in arranging the folds of a damask curtain.

Women dread a wit as they do a gun; they are always afraid lest it should go off and injure some one.



HOMESTEAD OCCUPIED BY MR. B., SPRING OF 1856.



SAME HOMESTEAD OCCUPIED BY MR. M., SPRING OF 1857

THE RURAL HOME.

Few spots are happier, or more cosy, at this season of the year than the rural fireside. He who forms his views of it from the recollections of fifty years ago, or even of twenty, has very poor conceptions of the place. There is really no class that has shared more largely in the general prosperity of the country, or that has been more benefitted by the investigations and discoveries of science. The old-style farm-house, with its broad-mouthed fireplace, its pine table, bench, wooden-bottom chairs with high backs, is superseded in many parts of the country, and well-built, substantial houses in modern style have taken their places. The old kitchen, which formerly served almost all purposes, except that of a dormitory, has been succeeded by a well-furnished parlor and dining-room, and by a kitchen that boasts more comforts than the whole of the old house afforded. The cooking apparatus is complete, from gridiron to tea-kettle, and the various processes of the culinary art are now conveniently done and regulated by the clock that ticks on the mantel-piece.

And when the meals are over, and the labors of the day are done, a clean, carpeted sitting-room, well warmed and ventilated, invites the farmer's family to the enjoyments of the fireside. There is light enough upon the centre table, no longer dispensed from a single tallow candle, with wick of spun tow, that only served to make the darkness visible. The farmer, and the farmer's wife and children, have a taste for reading, and the religious, miscellaneous, and agricultural papers are fast becoming the necessities of farm life. No class digest more thoroughly what they read. There is no fierce competition in their business overtaxing the brain. At this season of the year there is comparative leisure, and the suggestions of agricultural papers are turned to good account in forming plans for the coming season. These plans pertain to all the departments of husbandry, and are eager-

ly participated in by the female part of the household. It is cheering to see the progress of floriculture, and to notice how the flower border gains upon other parts of the garden as the younger members of the family come upon the stage. The agricultural matter that is now sown broadcast over the land, through the columns of the religious and political, as well as agricultural journals, is bearing fruit. There is a change for the better coming over the rural districts. New attractions are thrown around farm life, and many more of the sons and daughters of farmers will be induced to abide by the old homestead.

THE TWO PICTURES.

In looking over our portfolio, we chanced upon a pencil sketch, made a year since, of one of the homesteads in 'our neighborhood.' Knowing that an energetic person took possession of the premises last summer, we despatched 'our artist' to procure a present sketch. The two are given above, and tell their story. It is scarcely necessary to call the attention of the reader to the dead lambs in the trees, the woman walking in the mud 'ankle deep,' and the other walking high and dry upon a simple plank or board laid down, the respective conditions of the animals, the crow after the carrion, the tools, the grindstone, the manure and compost heaps, the fences, the yard, &c., &c. The two pictures will bear studying.

DEAD LAMBS—HOGS.

To the Editor of the American Agriculturist.

I have found it! The mystery is solved! You asked me "why farmers so often have that delectable ornament near their sheep pens, of a tree hung with dead lambs?" It had puzzled my brains to account for it, so I just called on neighbor Thomas, of whose opinion I have a high regard, as you already know.

He says "they hang them upon the trees to be out of the way of hogs, for if on the ground, in reach of the swine, they being carnivorous, especially the "land-pike" breed, would soon "devour them." "All right," I said, "let them do it."

"But," said he, "they would soon acquire a relish for the dead ones, and commence a wholesale slaughter on the living—that's the reason they are hung out of their reach on trees and stakes, an eyesore and a puzzle to many a passer-by. "Why," I queried, "do they not bury them around grape-vines and fruit trees? They are very rich manure." "In the first place," he replied, "the ground is generally frozen, and then again, I doubt if the farmer who displays so much of poor manure as to have dead lambs at all, has a grape-vine or fruit tree near by to put them around." "I think," he continued, "if sheep are properly sheltered, and fed with grain a little time before they have lambs, very few will need to be 'treed.' And again, hogs have no business to be running at large Winters, if at any season. They should be kept up; there is no grass they can get, and the manure is wasted, besides all the inconvenience and trouble they occasion." S.

NORTH HEMPSTEAD.

EARLY POTATOES—HOW TO RAISE.

Take a box or barrel (a broad box is best), and cover the bottom with equal parts of stable manure and earth, upon which place the potatoes two or three inches apart, and cover with six inches of the compost. Proceed in this manner until the box or barrel is filled. Next dig out a space in the side of your manure or compost heap which is fermenting with a moderate heat, and insert the box and cover with the manure. The warmth will be sufficient to start the potatoes, and it is possible too much so, in which case remove the manure from the top, and water if too dry. They will send out a mass of roots which will so adhere to the compost in which they are planted, that when the land is prepared, and the temperature will warrant putting in the open ground, they may then be taken out singly and transplanted with ease and safety, especially if the whole mass is previously wet. Potatoes started by this method will be from two to three weeks earlier than those planted in the ordinary manner.

Patience is a tree whose roots are bitter, but the fruit is very sweet.

Garden, Orchard, Lawn, &c.

SEEDS—GET THEM READY AND PROVE THEM.

Go into any well conducted seed store at almost any season of the year, and you will see tumblers or other vessels in a warm place, and partly filled with water, with a wad of cotton on the top of it. An examination of these vessels, will show you sundry seeds of various kinds lying upon the cotton or imbedded in it, where they are not actually in water, but are supplied with moisture constantly drawn up from the water below the cotton. In this arrangement the seedsmen are trying the vitality of the seeds they have to sell.

Now this same process, or one equally good, and with the larger grain better, should be put into practice at once by every farmer and gardener. How often is the labor and other outlays upon a whole field lost by the failure of seed to vegetate. But a single hour's time will suffice to test all the seed for a whole farm. Take corn and turnip seed for example.

Select from the whole mixed mass of seed to be used, say fifty to one hundred grains, if the total quantity be large, and plant these in soil placed in earthen pots or boxes, and keep them moderately moist and warm. A very few days will show whether the whole seed, or what proportion of it, will vegetate. It is always better to make two separate trials of each mass of seed, in order to guard against the accidents of wrong temperature, moisture, &c. For small parcels of costly seed, the trial need not be made with more than a half-a-dozen taken at random from the whole mass. If the common stone-ware flower pots are not convenient, any other vessel or box may be used. The ordinary earthen table bowls may be used, but it is always best to have a hole in the bottom through which water may be taken up by capillary attraction (be sucked up) to the surface.

The tumbler of water with cotton upon the surface will, in most cases, suffice for sprouting seeds, but if they fail in this way, at least two trials in earth should be made before a final condemnation. It is a sufficient test if the seeds merely start a little germ. The south window of a cellar, or better, that of a warm sitting-room, will furnish a good place for setting the testing vessels. Of course, if you have a hot-house, that is still better.

We deem the above a matter of no little importance, especially when seeds are purchased of dealers upon whose integrity you cannot confidently rely, and even then it is well to try their seeds, as well as those of your own production, since the germinating power is often lost by overheating, or otherwise in transportation, as well as during storage in the granary. The trial will cost next to nothing, and one can plant and sow with far more confidence and pleasure if absolutely certain that his seed is *alive*. Let this matter be attended to *now*, so that time

may be had to replace any seed which chances to be defective.



No. 1. No. 2.
CHAPTERS ON STRAWBERRIES.

CHAPTER III.

We propose now to explain, by reference to the above pictures, the appearance of the different kinds of strawberry blossoms. No. 1 represents a blossom deficient in the male organs, or as they are called *stamens*. No. 2 is a good representation of a perfect blossom. A mere glance at these will be sufficient to reveal the difference. No. 2 presents in the centre, or rather around the centre, small thread-like filaments, with little knots on the ends, called *anthers*; these contain the fine yellow dust called *pollen*, which, falling upon the centre of the blossoms, as seen in No. 1, fertilizes them, and causes the fruit to swell, which otherwise would soon become black and dead. No. 2 is a perfect blossom, having both sexual organs. Plants having such blossoms are sometimes called hermaphrodite, but more usually *staminate* plants, to distinguish them from plants bearing blossoms, such as No. 1, without stamens. These are called *pistillate* plants. For plants bearing both kinds of blossoms we have no name. They might be called *composite*. We shall then, when speaking of plants bearing perfect blossoms, that is, both stamens and pistils, use the term *staminate*. When speaking of plants having blossoms destitute of stamens we shall use the term *pistillate*, and when referring to plants bearing both kinds of blossoms, we shall use the name *composite*.

Nearly all the most esteemed and productive varieties of strawberries originated in the United States within the last twenty years, have been *pistillate* plants, while on the other hand, those originated in Europe during the same time, have nearly all been *staminate* plants—the reason of this has been already referred to in a previous article. While these have been very productive in Europe, they have been as unproductive in the United States. The cause of this difference is partly owing to the superior cultivation pursued in Europe, and partly to the difference in climate.

In our climate the *pistillate* varieties are certain to set their fruit if they are impregnated by the pollen from *staminate* plants, while the *staminate* varieties, especially those imported from Europe, have been found, under *ordinary* cultivation, to set their fruit very poorly. These circumstances gave rise to a very decided preference for *pistillate* varieties, and also induced the opinion that no *staminate* variety would, in our climate, produce a full crop of large fruit. This opinion seems to be losing

ground since the production of a *staminate* plant by N. Longworth, Esq., of Cincinnati, which bears a good crop of large fine berries, every blossom perfecting its fruit.

That other plants, having perfect blossoms, and bearing uniformly large fruit and abundant crops, will be produced, we have no doubt. Such kinds will, if produced, be preferred to *pistillate* plants, inasmuch as they will not need any other varieties to make them fruitful. Many object to the trouble of keeping two kinds in the same bed, as the more vigorous kind will be sure to overrun the less vigorous. On this account it is preferable to keep the *staminate* and *pistillate* kinds in separate beds.

Among staminate varieties, we think that Longworth's Prolific and the Large Early Scarlet, are the most desirable. The latter will succeed better under an indifferent cultivation than almost any other kind, yet none will better repay generous treatment. The only objection is that the fruit is small. It is the earliest fruit that ripens, and supplies the New-York market with its early strawberries. As a market fruit it possesses some fine points. The fruit is among the very best as to flavor. Its color is a beautiful light scarlet, and it does not become dull by exposure as many other kinds do. It is also solid, and bears carriage well. Longworth's Prolific is a much more showy berry, but it requires more care in its cultivation. Rich ground, made deep and mellow, and plenty of room, are required for success in the cultivation of this strawberry.

Among the *pistillate* varieties that are offered for sale, we think the three best are Hovey's Seedling, McAvoy's Superior, and Burr's New Pine. Hovey's Seedling has held its high position for twenty years, and is not yet surpassed, if equaled by any other variety, if we take into consideration all its qualities. In size it is not, in our opinion, equaled by any other. It may not be quite so productive as McAvoy's Superior but it is more symmetrical in form. Its point of flavor some will prefer it and some will prefer McAvoy's. It is a rather dry berry, and not very high flavored. McAvoy's is more juicy and more sprightly. When eaten with cream and sugar, Hovey's is, in our opinion, preferable, but when eaten simply with sugar it is too dry and insipid while McAvoy's, treated in this manner, is juicy and lively. We prefer to eat strawberries with simply sugar, and therefore select McAvoy's in preference to Hovey's.

Burr's New Pine is one of the most delicious strawberries ever raised in the United States, especially for eating out of hand. The plants are a little feeble in growth, and the fruit is rather small under ordinary cultivation. There is another *pistillate* variety much esteemed by market growers—the Crimson Cone. This is a very hardy kind, productive and beautiful, of small size and rather acid.

Next month, we shall treat of practical operations in planting, &c.

A dirty kitchen and bad cooking have driven many a one from home to seek comfort and happiness somewhere else.

THE GARDEN CULTURE OF PEAS.

One of the first seeds put in the ground by all good gardeners is the pea. Some even anticipate the Spring, and put in the early crop in the Fall, before the frost shuts it up. The seed is not injured by the frost, and any open spell in winter may be improved to plant this crop. It starts at a low temperature, and it is not uncommon to see a row of green peas peering through the snows of March. Unless actually frozen, they do not appear to be injured by the snow. As they are the earliest of the annuals that come to the table, so they are among the most wholesome and warmly welcomed of all the products of the garden. The season of this vegetable begins very early in this city, being brought by steamers in immense quantities from the South, and continuing until all appetites are sated, and it is a drug in the market. The sources of supply are from so wide an extent of country, and the article is so perishable, that there is not unfrequently a glut, and large quantities are sold at a sacrifice. But market gardeners in the vicinity of the city have an advantage over those who ship them from a distance, in always being able to offer a fresh article, and these always sell at the top of the market price. No vegetable suffers more from long keeping. The delicate aroma and much of the sweetness are lost the second day after picking.

But most of our readers are principally interested in raising this vegetable for their own tables, and it is to pea culture in private gardens that we will direct our remarks.

VARIETIES.

There are several hundred upon the lists, many of them so closely allied in all their characteristics, that none but an amateur can tell the difference. For all practical purposes, a half dozen varieties are better than a hundred. Though we have tried numerous varieties, we seldom cultivate more than three for our own table. Among the early varieties that we know to be good are the Extra Early May, Early June, Early Kent, Washington, Charlton, Emperor, and Prince Albert.* The Dan O'Rourke, sent out from the Patent Office, is a very early and excellent pea, but all cannot get the seed of it this season. The others are accessible at the seed stores.

About a week later than these is the Champion of England, which we prefer to any other pea we have ever grown, early or late. The vines are a little taller, and the pods much heavier, and full of a very rich, delicious pea. The peas shrivel as they dry.

The Marrowfat are later still, and of these, there are numerous varieties, all excellent.

CULTIVATION.

For the early varieties, we select the south side of a wall, or a southern or eastern slope, where they will have the full

* The list here given differs a little from our article last Autumn, as this is the experience of one of our associates. Of the varieties experimented upon last year, we had the misfortune to lose most of the seed during the Winter.

benefit of the sun, and be protected from the north winds. We sow them in double drills, about six inches apart, and the peas one or two inches apart in the drill. We sow with a brush seed sower, making very rapid work. We leave four feet space between the rows. For convenience in picking, and for cleanliness, brush are desirable, but are not generally used by market gardeners, as they increase the labor and expense. We usually trench the land where we plant peas, working in large quantities of stable manure or compost. It is one of the lime plants, and is much benefited by applications of lime to the soil.

If we wish to prolong the bearing of the vines, we plant the peas in a trench as for celery, and fill up gradually as the plants grow. This causes them to send out more roots, and the vines continue green much longer. Whatever method is adopted, the ground should be well manured, and the crop followed up with frequent hoeing and scuffling.

SUCCESSION.

There is a difference of three or four weeks in the time of maturing with different varieties. If these are all sown in March, they will give a good succession from June till August. Another sowing of the same varieties in May will give a still later succession, and will continue this vegetable quite as long as it is coveted. During the dog-days the vines are very likely to be struck with mildew, and if we desire peas at this season, they should be planted on the north side of a wall, where they will be kept as cool as possible.

COOKING PEAS

is a matter quite as important as growing them. Nine-tenths of all that are eaten in the city are worthless before they go to the pot. They should be cooked as soon as taken from the vines, and be boiled in no more water than is necessary to cook them. Then with roast lamb and new potatoes, they are a dish fit for the human stomach, to be eaten with thanksgiving, and a relish.

Buist says, "they are considered as a pleasant and nourishing food, having the character of purifying the blood and correcting scorbutic humors."

IMPROVING VARIETIES.

This can be easily done by carefully saving the largest and earliest pods every year for seed, and planting only these. Most men only take what is left for seed, and thus their varieties degenerate every year. Every gardener should see to the saving of seed himself. Certain rows or parts of rows should be left for this purpose. Long, plump, early pods, are the most desirable. They should be dried thoroughly, shelled, and put in a bag in the seed-room for the next year.

Do not use a top dressing, or guano in the drills when you plant, unless you want to lose your crop.

Skillful cooking is as readily discovered in a nicely baked potato, or a respectable Johnny cake, as in a nut brown sirloin, or a brace of canvass backs.

BASIL.

Pray what is Basil? We never saw it, never heard of it, and should not know how to use it if we had it. What is the use of raising basil if the cook (which in most cases means wife) does not know what to do with it? That is precisely the question that we set out to answer.

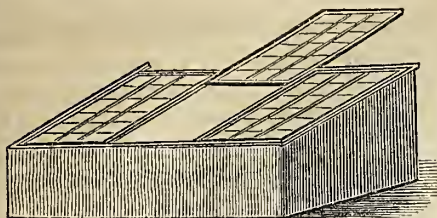
Our English cousins, as well as the French, have a great variety of pot herbs, and little delicacies for garnishing dishes, which make them not only look tastefully, but taste well, and thus add attractions to the chief meal of the day. These herbs are known in this country, but are confined mainly to our city markets, and to the gardens of gentlemen of wealth in the country. Parsley, celery, eschalots, chives, thyme, summer savory, basil, &c., are rare things in a farmer's garden, and quite possibly some of our readers have never seen them, and would not know the use of them.

Now we hold that farmers, the feeders of the world, have as good a right to be well fed as any other class of people,—that a perpetual diet of salt junk *alias* corned beef and pork, with potatoes, turnips, and cabbage, is not doing the clean thing by the noblest of all callings. There was an article in the Tribune this winter, on "Cooking in the Country," which told a great many unpalatable truths, and called forth a large amount of female indignation and correspondence. We shall not repeat the folly of that writer by assailing the *quality* of anybody's cookery. We assert that salt junk and cabbage, however well cooked, lacks *variety*, and that farmers may as well have a stew, a roast, a bake or a soup, as any of their city cousins.

Now, to do up the meats in the most attractive style, and to have the dinner accompanied with pleasant memories, we must have the pot-herbs, and the garnishing, and then with a few hints from the cook-book, we will put a country dinner against the best thing they can get up at the Astor or the St. Nicholas. A farmer has as good a right to a mock turtle soup, or to the genuine article without any mockery, as any Alderman. Hence the use of pot herbs in general, in the garden, and of basil in particular.

There are two varieties of this herb in use, sweet basil, (*Ocimum Basilicum*), and bush basil, (*Ocimum Minimum*.) Both are natives of the East, and are held in high esteem by all cooks trained in the schools, for their delicate flavor. The peculiar flavor of mock turtle soups is chiefly derived from this valuable pot herb. They flourish best in a rich light garden soil, with full exposure to the sun.

Sow the seed in a gentle hot bed, about the 1st of April. When the plants are up, and large enough, say about the 1st of May, prick them out in rows twelve inches apart, and six inches in the row. The plants are rather tender, and easily affected by the frosts. They should be cut early in autumn, tied in little bunches, and hung up for winter use. A small bed will furnish a continuous supply through the summer.



HOT BEDS—HOW TO PREPARE.

Hot beds require attention during the first of this month. They are sometimes made by excavating the earth for the heating materials, though these are more frequently placed upon the surface. If stable manure alone is used, it is better to remove but little earth, but if leaves and tan are employed, and the ground selected for the bed is sufficiently dry, we prefer digging a pit two feet deep, and of any desired size, say twelve feet long and five feet wide, to be covered by four sashes, each three by five feet. If the ground holds water, a drain should be made from the pit, and stones, rails, or bones placed at the bottom. It is of the first importance that the heat-generating materials be kept dry after making the bed, else failures will be the result.

Pits are usually dug in the Fall, because the frost is seldom out of the ground sufficiently early in the Spring. The sides are sometimes built of brick, and kept for the purpose of forcing, year after year.

Having chosen a locality in a situation sheltered from cold north winds by buildings or evergreens, or by a board fence, with a free opening to the South, prepare the pit as above, and if leaves were collected for the purpose last Fall, put in a layer, say four feet in thickness, and cover with six inches of spent tan bark. Spread over the whole three inches of dry earth or mold, prepared as below, and a gentle, uniform temperature will be maintained for several successive months.

The more common method, however, is to place, either within a pit or upon the level ground, about three feet of stable litter which has been shaken out and kept under cover for ten or fifteen days. Square this up one foot larger each way than the size of the frame to be used, and having beaten down and leveled it off, cover with six inches of prepared earth. This covering should be prepared in the Fall, by mixing well-rotted turf with one-third decomposed stable manure. Garden soil, well manured, will answer this purpose if the prepared earth can not be had. The bed should not be planted as soon as made, but covered with the frame and sash, and left for a few days. Examine often, and if the heat appears too great, admit air by the sashes.

FRAME AND SASH.

The frame to be set over the compost may be made of one-and-a-half or two-inch pine plank, nailed to four upright posts, or, what is better, nail the *side* pieces only to the posts, and fasten on the end pieces temporarily with screws, or hooks and staples. This will allow of their being taken apart and packed away when not in use. Groove the sides and ends together when two planks

in height are used, and let the frame be fifteen inches deep upon the front or south side, and two feet upon the back, beveling the whole so that the sash will fit closely. If the frame be five by twelve feet, insert three cross pieces on the upper side, three feet apart, for the sashes to slide upon, and nail narrow strips, say one inch square by five feet long, on the center of these cross pieces, and also upon the outer edge of each end of the frame itself, to keep each sash in its place, and make close joints. The sashes are usually made by sash-makers, with a strong outer frame, and middle rails running lengthwise only, that the water may run off freely. Every thing being complete, and the beds having stood for a few days until the rank hot steam has passed away, the ground may be used in the following manner, or in any other way desired: Divide the bed under each of the four sashes, which will give eight spaces. In these may be planted cabbages, tomatoes, egg-plants, celery, cauliflower, cucumbers, spinach and lettuce, scattering a little radish seed over the whole. The radishes will be large enough to pull out before interfering with the other plants.

Examine the bed daily, and if the heat appears too great, admit air by raising the sashes a little upon the back side. Water moderately, if too dry, and if at any time the heat appears to decline, bank up about the bed with stable manure, which may be renewed as necessary. If severe weather should occur, the whole may be covered with mats or straw for better protection.

After the plants have put out their third leaf, the sashes should be raised a few inches every mild day to air them. This is *especially important* towards the latter part of their growth in the bed, as the heat and steam would soon scald or burn them up. The plants thus started are of course to be transplanted to the open ground as soon as the season will admit. With a single frame, and a very little expense and trouble, a large number of plants may be started so early as to gain three to five weeks over the usual garden growth.

PRESERVING FRUITS, &c.

We are now daily enjoying nice tomatoes, peaches, cherries, raspberries, &c., which taste just as fresh as when they were picked last Summer and Autumn. These we have kept in the "self-sealing tin cans," part of which were purchased from Messrs Wells & Provost, and part from Messrs. Taylor & Hodgett. The fruits were put up according to the directions we gave last year, which will be repeated at the proper season. Very little sugar was used, and but little cooking. From a second year's experience, we are satisfied that this mode of keeping fruits that are not too sour (acid,) is the cheapest, most healthful, in short the best we know of. We hope the manufacturers of the cans will make their arrangements to sell them at the lowest possible price, (the cost was rather too great for extensive use last year,) and then prepare to supply "the million." This notice is unasked, and

wholly gratuitous. We merely speak for the benefit of our readers.

WHEN AND HOW TO PRUNE.

In our last number we presented some general considerations on the importance of pruning trees: we now proceed to answer the inquiries, When and how to prune them? Our remarks at this time will have special reference to the apple and pear.

There is learned "authority" for pruning at every season of the year. Loudon says, "the period immediately before, or commensurate with, the rising of the sap, is the best." Forsyth recommends "April or May." Kenrick, "that interval between the time when the frost is out of the ground in Spring, and the opening of the leaf." Cole says, "the Spring is the worst season," the Fall is the best, and moderate pruning may be performed from June to December. Downing recommends "a fortnight before mid-Summer as the best season on the whole, in the Northern and Middle States." Barry says that, with some exceptions, pruning should be done "as soon as the severe frosts are over—say the latter end of February and beginning of March." A witty clerical horticulturist is said to have given his advice to prune "*when your tools are sharp*"!

So far as practice goes, the argument is certainly in favor of Spring pruning, full three-fourths of all this work being done at that season. This is a time of comparative leisure for the farmer and gardener. The bark of trees is then less likely to start under the orchardist's boot, and less likely to peel off where a limb is removed. We do not admit the argument of some writers, that as the sap in early Spring has the strongest ascending impulse, and is designed to promote growth of wood, wounds made at this season will soonest be healed. For this sap is not in a condition to heal wounds until it has been elaborated by the leaves of Summer. When large limbs must be taken off, Summer is, on the whole, the best season, provided the work is done carefully, and the wound covered with grafting wax or shellac dissolved in alcohol. If small trees are pruned late in the Fall, or in mid-Winter, (at the North,) the ends of the shoots shrivel and die, and the terminal bud is injured, if not killed. If large trees are pruned then, the stumps often decay, unless covered, and rarely heal over for many years. If pruning is done in mid-Summer, upon healthy trees, the wound heals rapidly, because the descending sap is then in a fine condition for depositing woody fibre. Light pruning may be safely recommended for this season. Well would it be if trees were so managed when young as not to require the amputation of large limbs at any subsequent period; for certainly it is a great waste of time and of the tree's forces, to grow a crop of limbs only to hew them off again.

The young apple tree and standard pear need little pruning except to remove straggling and cross branches; and even this can

often be anticipated by a timely *pinching*. The dwarf pear tree needs more attention, in order to give it proper shape, and to promote its fruitfulness.

When a young tree is taken from the nursery, it is often destitute of the lower branches needful to give the tree a pyramidal shape. The first thing to be done is to head back the tree in Spring, so as to develop branches within from one to two feet of the ground. If any push out lower than this, they should be rubbed off. This first severe pruning is of the greatest importance. If neglected, the sap will push up into the top of the tree, leaving a naked trunk below, thus defeating a prime object in the culture of dwarf trees. Use the knife, then, faithfully at first; get a broad, strong base for your pyramid, and the remainder of your work will be satisfactory. During the first season, branches will push out, on a healthy tree, from ten to fourteen inches long. If they become too thick, the weaker should be rubbed off, so as to economize the forces of the tree, and to regulate its shape. Select the most vigorous branch near the top for a leader, and check several branches below it, by a slight pinching of their extremities in Summer, so as to give a greater advantage to the leader, and to the branches at the base.

Early in the second Spring, all the young shoots should be cut back; the lowest to within six or eight inches of the trunk, the next above four or five, and so on, tapering to the leader, which should be cut back only about one-half its length. During the second Summer, the young shoots which start from the horizontal branches should be pinched off, after they have made a growth of two or three buds—*always excepting the leader* of each branch, which should be allowed to grow the whole season: in the following Spring, it should be cut back to three or four buds of the new wood. This checking of the side shoots causes an accumulation of organizable matter in the short branches, and converts them into fruit-spurs. The leading shoot of the two should be allowed to extend itself upward from the topmost bud, and to send out side branches. If any contiguous shoot tries to dispute for pre-eminence with the leader, it must be subdued by pinching.

In the third Spring and Summer, the pruning should proceed in the same way. The lower branches should be moderately cut back, the higher more closely, and so upward, preserving a regular, tapering outline, terminating in a single shoot at the top. The leaders, both of the side branches and of the tree itself, should be allowed to grow during the Summer so as to extend the tree on all sides, and to use up the superabundant sap. The shoots on the side branches should be checked, so as to favor the production of fruit-buds. All weak and cross branches should be removed whenever they appear. This general treatment having been pursued six or seven years, the tree will have attained a desirable size, and will require no further pruning except to keep it in good shape and vigor. If it becomes too fruitful for its

permanent health, the fruit-spurs must be thinned out: if it runs too much to wood, the branches must be pruned more severely, and the roots may be pruned, if it can be done skillfully.



If pear trees, both dwarf and standard, were more generally trained as pyramids—thus clothing their trunks with foliage from top to bottom—we believe they would be less liable to the diseases now so common, and so fatal to them.

The mechanical operation of pruning deserves more notice than we now have space to give to it. Prune “when your tools are sharp,” and never when they are dull. In cutting off large limbs, make the incision as close to the trunk or main branch as possible, without mutilating it. To prevent the peeling of the bark, the limb should be cut off partly from the under side. To expedite the healing of the wound, the whole should be pared off smoothly with a sharp knife, and then covered with grafting wax or other weather-proof mixture. In pruning small branches and stems, the incision should be made as close to a bud as possible without removing any of the wood belonging to it. The knife should enter below the bud, and come out just at the top of it. When it is desired to give the tree a more spreading habit, prune to a bud on the outside of the branch: when a more upright growth is wanted, prune to a bud on the inside. When a gap in the tree needs filling up, prune to a bud on the side towards the gap. In pruning the leading shoot, cut each successive year, to buds on the opposite sides of the tree: this will keep the tree erect.

In conclusion, we say, make pruning an intelligent operation. Never lop off a branch at random. Be able to give a good reason for every wound you make on a tree. Lindley well says: “If well-directed, pruning is one of the most useful, and if ill-directed, it is among the most mischievous operations that can take place upon a plant.”

CUTTING SCIONS.

Few persons are already so well supplied with the really excellent new varieties of cherries, plums, apples and pears, that it will not be for their interest to add somewhat to their stock. We stop not now to enumerate those varieties; our readers, perhaps, are already well-posted in relation to them. But we wish to remind them that the season for engrafting is nigh at hand, and that scions must be secured soon or it will be too late.

Scions may be cut at any time between the fall of the leaf in autumn and the starting of the sap in spring. If cut in the fall, they must be buried in dry, sandy soil on the north-side of a fence, and a mound of earth drawn up over them to throw off the water, or place in a cellar. If cut in winter

they may be buried in a snow-bank, where they will not be likely to be thawed out till spring; then they must be taken into the cellar. Or they may be cut in spring, and stowed in a cool cellar until they are wanted for insertion.

The best mode of preserving scions may be stated in few words. The *object* is to keep the buds dormant; and to accomplish this, we must keep the scions cool and moist, but not wet. If taken into the cellar, they should be laid in a cold corner, and covered with damp sacking, which should be sprinkled as it becomes dry. They may also be kept in moss, saw-dust or sand. If sand is used, care must be taken that it be not very dry, or it will absorb too much moisture from the grafts. If very moist, it will be equally destructive, and at best, it will dull the knife in grafting. We have always succeeded perfectly in using damp sacks, or moist saw-dust.

Scions may easily be transported by express, from one part of the country to another, by packing them in damp moss. At the present low rates of postage, they can also be sent by mail, if they are first wrapped in oiled silk. When they are to travel a great distance, it is well to dip the *cut ends* in melted sealing-wax, wrap each graft in oiled silk, tie them all together with thread, surround the whole with a little cotton and enclose in an envelope. We have known packages so prepared, to be sent from the extreme North to the extreme South, and though a month on the journey, they arrived in perfect order. If, by any accident, scions become dry in the transportation, they should be buried in common garden soil, as soon as received; in ten days they will become as plump as ever.

We will just add, that they should always be cut from healthy and vigorous trees, the wood being of the preceding year's growth, firm and well-ripened.

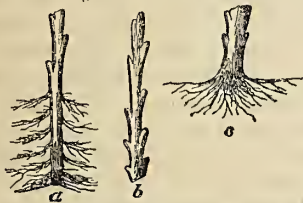
GRAPE CULTURE—NO. III.

BY WM. CHORLTON.

During this month, in all localities excepting the extreme North and Northeast, the soil will be in a fit state for working, and when so, no time should be lost in getting ready for planting. Having mentioned the injurious effects of humid and low situations, we may further show the necessity for thorough drainage. If the land for vineyard culture has an open, sandy, gravelly or stony underbase, where the water passes freely away, there will be no further preparation required than deep trenching, or surface plowing, following with a subsoil plow that will penetrate at least twenty inches,—if deeper so much the better; indeed it ought to go down to the natural drainage. If the subsoil is stiff and heavy, the situation is inferior for the purpose, and artificial drains will more than repay the cost of making. With regard to the grape generally, no permanent success need be expected without attention to this most important consideration.

Many persons think that the older a vine is before planting, the sooner they will have a full crop of fruit. I have frequently talked with those who were hard to be convinced, that a three or four-year-old vine of large size would not set and ripen plenty of bunches the same season it is

planted. Here is one of the great mistakes that is often made. The grape-vine has a large volume of root, all of which is required to support the extensive development of the upper growth, consequently it is easily seen that, unless the vine be established in the earth, and there is a corresponding amount of feeders, the fruit and branches must lack nourishment. For the vineyard, either cuttings or one year old plants are best, and for the graperies such plants should *always* be preferred. It is better to have an abundance of healthy roots, with a small well-ripened stem, than the reverse. For out-door culture, the plants may be arranged at the distance of five feet each way; and for the graperies three feet, in a row, and along the inside front of the house. In the former case, when cuttings are used, or if the plants have been raised from cuttings, there will be roots emitted along the buried part of the stem, and the planting should be equally deep for the sake of retaining the whole of them, and also enabling the vine to have a main reservoir to feed from in dry weather; but in the latter, deep planting should always be avoided, and more particularly if the borders be not raised above the ground level, or if they are made of over rich materials, for the roots, under such circumstances, are very subject to rot. The annexed three illustrations will show our meaning in this respect:



(a) The rooted plant for the vineyard, or out-door culture.
(b) A cutting prepared and planted for the same.
(c) The rooted plant raised from a bud, as it should be planted in the graperies.

It is expected that pruning has been completed before this time; if not so, do it without delay. When pruning is deferred until late, the vines will "bleed" freely, and, although this does not always materially injure them, it nevertheless prevents a vigorous burst of the foliage and young shoots, which retards the ripening and injures the quality of the fruit for the season.

COLD GRAPERIES.

The vines may remain covered until the latter part of the present, or, in late situations, the beginning of next month. The house should be kept cool by having the ventilators and doors open at all times, except during severe frost. After the covering is removed, clean the house and make all neat. Fork the inside beds, and give a thorough syring over the whole house.

FORCING HOUSE.

This is the most trying month in the season where grapes are being forced early, as, generally speaking, the roots are in a cold bed, and, notwithstanding there may be a sufficient covering on the surface, still the soil lacks the genial heat which a summer sun imparts to it, while at the same time the branches are exposed to a temperature and atmosphere suitable to their healthy action. This difference of condition and artificial position, tends to the development of the plant, it is true, but the expanded leaves have not the requisite supply of organic matter flowing through them, which causes them to remain more than usually thin and watery. The weather too, at this time, is fickle, one day being mild, cloudy and moist, while the next may be dry, cold and windy, with severe frost. These sudden differences require the greatest care and watchfulness, else after a day of severe weather the leaves will suddenly wilt and be destroyed when the sun's

powerful rays strike them. During these cold days do not open any but the top ventilators, and these no more than is necessary to keep the thermometer at 85°; dampening the floor, sides and ends of the house, so as to secure a humid atmosphere, which will assist the circulation of the sap in the leaves by absorbing the moisture through the stomata, or breathing pores, on the under side. Be careful to keep a steady range of temperature, from 55° to 60° at midnight, and 70° in cloudy, with a rise to 85° on sunny days. Break off all superfluous growing shoots, and pinch out the overplus bunches of fruit blossoms, leaving only one bunch on a spur, unless the number of bunches are deficient upon the vines. Tie all needful shoots, to the wires in regular order, and in a neat manner, as fast as they attain a sufficient length, but not sooner, as they are very brittle at the first start.

SECOND EARLY HOUSE.

We will presume that the forwarding of this house has only been going on some two weeks. Proceed as advised for commencement last month. And here I wish to correct an error which occurred in the last number. In the advice for forcing, and the house in leaf at the time, the sentence reads: "Where forcing is just commencing, 60° is quite enough." This was intended to apply to the highest range of the thermometer at midnight, when the vines are in a growing state:—such a night heat would materially injure any crop, if long continued at the commencement of forcing. The right temperature will be found at the bottom of the same paragraph. Do not be afraid of using water freely over the vines, and all the inside surface of the house. There is no danger of the inside bed becoming too wet if the water be distributed judiciously. So soon as all the buds are well and equally burst, tie the vines in their proper position for the season, and do not be in too great a hurry to increase the heat, but let nature have her own way without undue excitement.

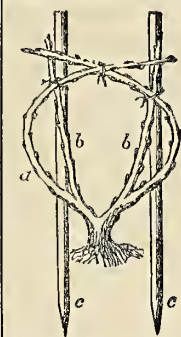
RETARDING HOUSE.

This part of grape culture has not yet become as general as it ought to be. The intention is to keep back or retard the ripening of the fruit, so as to have it fit for use during the winter months. This is a great desideratum, as during the winter a higher price is obtained for grapes than at any other season of the year. Those who can afford to keep their own competent gardener, and have the conveniences for the purpose, can enjoy this luxury individually, but there are many others in all our large cities, to whom cost is no object, providing such rarities are to be had. At present the demand far exceeds the supply. Instead of fine black Hamburgs, or others of like quality, there is nothing for sale but the White Lisbon and Black Portugal, two inferior kinds, which are rendered still worse by long keeping, and the sea voyage from Portugal and other parts of Southern Europe. It is to the commercial grower that we would more particularly speak in this case, for there is a fine chance for those to make money who will take it up. Those who may wish to have a house of this kind will do well to choose a western aspect, as the object is to prevent the vines from commencing growth early, and the advantage of this position will be recognized, as the sun will not have much influence until the beginning of summer. As we proceed, hints will be given for this speciality. In the mean time, keep the atmosphere dry and cool, but if there be any grapes still hanging do not let the frost in.

OUT-DOOR CULTURE.

If the vines have not been neatly tied to the trellis or stakes, do it at once. When the branches are left to be dashed about by the equinoctial

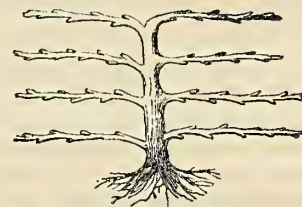
gales, or even handled when the buds are swelling, they are usually injured. Remove all the *really loose* bark and examine if there be any chrysalis or eggs of insects in the crevices, if so, destroy them; and when there is only a limited quantity of vines, and time can be spared, it makes sure work if both branches, and trellis should be washed over with the mixture mentioned last month. Near a dwelling-house or other building this ought to be done every season, for in such places the insects are often more numerous, and have better chances of protection through the



winter. Have an eye to neatness and finish, and as soon as the weather will permit fork over the surface, working in the manure applied in the Fall as a mulch, or other dressing as is necessary at the same time.

The accompanying figures show two other methods of training for the hardy kinds. No. 1 is best adapted for vineyards; (a) the bearing branches; (b) shoots of the present year, and intended for fruiting the next season; (c) stakes.

No. 2 makes a neat form along the sides of a



path. The branches may be increased in length from year to year, the lateral growth being cut into two eyes at pruning time.

PLANTING AND GRAFTING TREES.

RAINY-DAY RAMBLES NO. III.

As I walked through the orchard with neighbor Thomas, he called my attention to some straight and symmetrical apple trees, that were indeed beautiful. He said, "we cannot take too much pains with our trees, in forming their heads and trimming out all unnecessary branches. I go over mine every year and cut out the useless shoots, before they grow large and make a bad wound in removing," Well neighbor, how are these trees set out, I queried? "In the first place, get the most thrifty trees you can procure. I do not like them less than one inch, nor much over two in diameter, near the ground. Larger trees are difficult to transplant without injury, and the growth is more retarded. I have known much smaller trees to exceed them in size, in five years. We have numberless varieties, and with careful selection, thriftiness of growth, excellency of quality and productiveness may be united in one. Many of our best varieties for the dessert are such slow growers and shy bearers that it is best to reject them. In setting them, don't do as my neighbor William who had a man hold the tree while another marked the circumference around the roots with a spade, and crowded in the tree after the fashion of a post. Don't be afraid of digging the hole too large. Take the surface soil, or sod, and put it in a heap, then dig out a foot or so of subsoil, unless it be a hard pan which will hold water, and cart it off, or throw it away. Then replace the surface earth or sod to form a bottom for the tree to rest on. Plant so that the tree will be of the same depth, after the earth has settled, as in the nursery. Now if there is a well-rotted compost prepared beforehand, or any wood-

pile dirt free from chips, or molds richer than the surface soil, use it around the roots. Nothing out loose friable earth should be placed near them, as the dirt must fill up every cavity, and press against the surface of each root. If planted in the Fall, they do not so much require this attention, as freezing and thawing will bring the earth in contact with them.

If you have nothing better, throw the mold, without the sod, around the roots and a top dressing of a little coarse manure, or any substance that will keep the ground moist during the summer, will be of great service. By no means allow grass, weeds, or any kind of grain but buckwheat or corn, to come near young trees." Upon my asking if he had a rule about the height branches should be allowed to grow, he replied, "People differ greatly in this respect. In the rich regions of the West, where trees arrive at maturity in a few years, they may be allowed to start a few feet from the ground. Where trees grow luxuriantly, the branches shoot up strong, more like a cherry tree; but with us, in the vicinity of New York, the branches would soon stretch out horizontally, so that we could not come near them with a plow, and even droop upon the ground when bearing." A nurseryman from Maine advised me never to let them branch higher than four feet, and another experienced fruit grower said seven feet was the proper height. So we differ, and varieties differ too. Some will grow with low heads in spite of all our care. Young orchards should always be kept plowed, or the ground dug about the trees. As to crops, potatoes, turnips, &c., are undoubtedly the best, but who can have a lot of ten acres covered every year with such crops? It takes too much time and labor to tend them properly. Buckwheat is perhaps the best sowed crop, as the ground is stirred when the roots require it most, and the quick growth of the plant soon shades the surface from the burning rays of the sun. But corn, manuring the ground every year, keeps the earth loose by the repeated plowings it requires, and upon the whole suits me best. If the trees are quite small plant a row or two of potatoes near them to prevent shading by the corn, and when large, only plant outside of the limbs." Now, neighbor, I want to know what kinds to set out? "Ah, that is a difficult question. There are a few kinds like Rhode Island Greenings that are good in almost every locality, while others, are much better in the neighborhood where they originate. I was told when I set out my orchard to plant but very few kinds, but I don't believe that doctrine. I want three sorts of apples to continue through the year. First, sweet apples, for those that like them best, and for baking; acid apples of large size for culinary purposes; and high-flavored sub-acid, of medium size, for dessert. To have plenty of these ripening in succession through the season requires several varieties, especially as our tastes vary. I would recommend for this vicinity early Harvest, sweet Bough, and Summer rose, as early apples, followed by Summer Queen, Golden Sweeting, and American Summer Pearmain. For Autumn, Fall Bough, Willis, and Jersey Sweet, Cream apple for dessert, and Fall Pippin for cooking. The Willis Sweeting (or pear tree lot), and Cream-apple, originated near here, some 75 or 100 years ago, and I have yet to see them equaled for their respective uses. For winter dessert, the Marigold, Golden Apple, Hubbardstons Nonsuch, Rhode Island Greening, and Spitzenburg, Ladies, Moores, Tolman Sweeting for sweet apples, and for culinary purposes, Titus and Red Pippin, L. I. and Roxbury Russet, Baldwin and Green Seck-nofurther. The Fall Pippin is a splendid old

variety, but has been a shy bearer for several years, and perhaps the Gravenstein will take its place. The Newtown Pippin, although a native of Long Island, scarcely pays. It should be planted only on rich soil. The yellow Bellflower, Vandervere and Swaar are uncertain bearers at present. I find that early ripening apple, as well as pear trees, require, from the rapidity with which the tree forces its fruit to perfection, a better attention and a richer soil than late ripening sorts. I would always like to dig up my trees if I could, for where many thousands are sent away every year from the nurseries, it cannot be expected they will take as much pains as is necessary. In taking up trees, first dig a trench a good distance from them, with the spade facing the tree, to cut off the large roots then turn the edge of the spade to the tree and lift the earth carefully cutting the small fibrous roots as little as possible. We want a larger root for bracing trees against the wind, while the smaller ones gather moisture and substance from the earth. In the Spring the head should be thinned out, but I do not approve of shortening in the branches all around. The strongest and best buds, which produce the largest leaves, are on the limbs of last year's growth, and if these are removed the inferior ones remaining produce small sickly leaves insufficient for that design in nature's economy, for which leaves are autoaed.

To avoid the ugly wounds, which the most careful sometimes make while plowing orchards with horses, the two or three furrows nearest the trees should be completed, either by oxen or with a one horse plough with a short swivel tree.

People differ greatly as to the distance of planting trees apart. If we want to shade the ground so that it will not require plowing when the trees arrive at maturity, 20 feet is the least distance, and then some of the large spreading varieties will be too close to yield good fruit. It would be well when planting out an orchard, to set these thrifty growing, spreading varieties by themselves, and much further apart than upright early kinds. Forty feet is the extreme distance for those who wish to raise crops, and pasture the ground among trees. Almost every fruit-grower has a notion of his own about fruit, and I can give no better advice than to ask the counsel of the best informed among your neighbors and peruse good works on fruit trees."

I noticed a fine row of cherry trees growing by the road, and queried his mode of raising them. "The mazzard cherry grows abundantly in our vicinity about the fences and in the woods. These are transplanted when about ten feet high, and from one or two inches in diameter, and when they become well rooted, generally in two years, they are grafted. It is considered a difficult thing to make grafts on large cherry trees live, but with proper care, they are nearly as certain as other kinds of fruit trees.

I cut the grafts before the buds swell, and place them where they will keep moist. When the sap has started and the buds commence swelling, saw off the top, or the limbs as the case may be, taking care that the stock is not too large, and cut the edge of the stock, so as to make a smooth cut. A jagged edge will heal over badly on any tree. Then with a thin-bladed knife, keen as a razor, made a slit down the stock an inch and a-half long, cutting through the bark, and only reaching the wood. Make a downward cut a little below the top of the stock across this slit, after the manner of tongue grafting. Next slope one side of a graft to fit in length the first cut upon the stock, and after making a cross slit to match the one on the stock, insert it in the cut against the wood, sliding it down until the tongues

of the two shall unite. If the stock is large, place two or more grafts around it, allowing the bark to remain, to keep the graft in its place, until ready to tie. They may be tied by cotton cord or any other string, if care be taken to cut the string when the scions are firmly knit, but it is better to wind round a strip of paper or old thin muslin covered with grafting wax, so that the growing graft may rupture its bandage.

There are two necessary things to success in grafting cherry trees, viz, a thin and sharp knife and a perfect exclusion of air from the point of union. Where the bark is exposed by incision, mortar is the most effectual, tied on with cloth or rags. It may be covered one-eighth of an inch in thickness, with grafting wax put on while warm, but it must be well done and wrapped around with paper or cloth to prevent the sun melting it off.

QUEEN'S CO., L. I.

CULTIVATION OF THE PEACH.

To the Editor of the American Agriculturist:

Perhaps nowhere in the State of New-Jersey are there more good peaches produced than in the county of Morris. Her gravelly hills and red shale elevations, with railroad facilities to two of the best markets on the seaboard, offer extraordinary inducements to cultivators. New-York is reached, during the picking season, in three or four hours from Morristown (including stoppages), by an express train on purpose for the accommodation of this business.

All along the line are myriads of baskets awaiting transportation. They are picked by hand the afternoon before, and put up in baskets of about three pecks each, (some baskets fall short of this quantity), covered with muslin, and delivered next morning on spring wagons to the various depots.

In the matter of growing, picking and putting up for market, many of our Jersey peach growers have acquired good proficiency, and are deserving of much credit. At the same time, in the matter of peach growing, as in every other business, there have been signal failures. I have no faith in those writers that fill the public ear continually with the bright side of things only, and that oftentimes greatly magnified. I say, therefore, that we have failures. It is not every well planted orchard that arrives to a perfect bearing state. Mortifying failures and losses often occur, and this is one of the principal points I propose to discuss, hoping, as I proceed, some useful information may be given that will interest, if not instruct, the many readers of my friend the Agriculturist.

I have purposely commenced this subject, perhaps at the very point where some would naturally suppose me to leave off. But not so. The orchard is the place to test the value of fruit grown for market. Some varieties of fruit are excellent for the table, and yet not a profitable crop for market. Thus the novice in fruit culture is often led into gross errors. Take one single example. The Morris White, in our locality, is a well-known and popular variety—white, as its name purports, very delicious, and excellent for the table. Yet this peach is not much grown or relied upon for market. There are objections to it that preclude the possibility of its becoming profitable in market culture. It is oftentimes a shy bearer, more easily affected by the extremes of weather or unknown causes, and will not bear transportation as well as many other varieties. Its beautiful white appearance, when fresh, is "too pretty to last," the least bruise giving it an unsightly appearance which injures its sale. The diseases of the peach tree are, with many culti-

vators, but imperfectly understood. Great and serious losses occur from this cause, and men complain that they cannot raise peaches. But I am persuaded that their failures are mainly owing to an imperfect knowledge of the proper treatment of the peach, and only wonder that they succeed even as well as they do. The various causes that influence these results, we propose fully to consider in turn.

Some make but one trial of peach culture, and ailing in this, they infer that disappointment is always in store for them. This is no mark of a great mind, neither is it any proof that peaches cannot be profitably raised. When I meet with such instances, I am always reminded of a Dutchman I once met in Pennsylvania. When offering him some peach trees, he said he would not mind buying one, if he "tot it woot liff."

And now, Mr. Editor, as I am nearly to the end of journey No. 1, let me invite your readers to consider these few remarks only as a sort of introduction to my topic, and that having simply announced my proposition, I will endeavor in my next to satisfy their curiosity in a measure to know something of the peach culture of New-Jersey.

WM. DAY.

MORRISTOWN, N. J.

PLANTING ORNAMENTAL TREES.

For the American Agriculturist.

Trees are the most beautiful and attractive objects with which nature has kindly endowed the face of our fair earth, yet how few set any value upon them—to cut down and sweep hence is rather the wish and practice. Some cannot spare the time to cultivate them, many will not allow the expense, while others are in doubt as to the *how* or *when* to do it, and so, from one cause or another, the trees do not go in the ground. We will offer a suggestion or two which may be useful, especially to some of the three cases named.

First, we may say, study the habits and adaptabilities of your trees. They should be well furnished, that is, clothed to a low point with leafy garniture. They should be healthy, vigorous and erect, though in picturesque scenery, they may be as crooked as a ram's horn. The soil should be well prepared and free from stagnant water, and it will be found advantageous to mulch any tree with litter. We deem Autumn, when the ground is in better condition, the best time to transplant deciduous (leaf-shedding) trees. They then have time to settle before mid-Winter, and in Spring are ready to start at once into growth. The Winter and Spring rains assist in packing the soil well round the roots. For evergreens we prefer May, June, or even July. With these we must use great caution in removing, for if the small fibres of the roots are laid bare, they receive an injury which may prove fatal to the tree. Be careful to remove a goodly quantity of soil with them.

The elm is a very picture of elegant and refined gracefulness, but if we would see it in all its magnificence, it must stand out prominently and alone. The American and the Scotch, or Wych elm, are the best trees for us, the latter particularly, since it is not subject to the ravages of insects, and it assumes a pleasing variety of character. The weeping Scotch elm, with its pendulous fan-like spray, is an interesting tree. The elm requires good rich soil, rather moist, and bears transplanting well.*

The Magnolia is a charming native, and with its large showy foliage, smooth trunk and fragrant blossoms, is ever a favorite. The leaves of *Magnolia grandiflora*, which is an evergreen, are about seven inches long, with a beautifully polished sur-

face; the flowers are pure white, and quite large. This tree often reaches the height of 60 feet in the Southern States. The *M. Macrophylla* has leaves, in its youthful days, which often measure three feet in length. The *Cucumber* Magnolia will grow 80 feet high, and has flowers of a bluish white, sometimes merging into a yellow tinge; they are very large. *M. Cordata* flowers very abundantly, and frequently twice in the year. The Magnolia should be sheltered, and planted in deep rich soil.

The *Liquidamber*, or sweet gum, is a beautiful tree, very like the maple; it retains its clean, dark glossy star-like foliage through the burning heat of mid-Summer. But it is in Autumn that the most glorious effects are visible; then it is dressed in a livery of brilliant tints, ranging from vivid orange to deep purpled red. It requires a rather moist soil, is easily transplanted and grown, little or no care being required; it is a native.

The Tulip, or white wood tree, is a very rapid growing and beautiful tree when standing alone. Its clean trunk, thick-perfumed cup-like mottled flowers, and rich glossy foliage, make it worthy a place in the garden, and the more so from the fact that its leaves are too bitter to furnish food for insects. It wants careful removing and rather rich soil. It is also a native.

The Virgilia, or yellow wood tree, of Kentucky, is an exceeding pretty one, of the medium size, and when in bloom, with its pendulous fragrant flowers, yellowish in hue, is really an ornamental object; the foliage in Autumn is of a beautiful yellow. It luxuriates in a light rich soil, protected alike from the extremes of heat and cold. The roots should not lie exposed.

The grand objection to these trees, with many, lies in the fact that they are *natives*.

* PRICES OF TREES.—We take from Messrs. Parsons & Co.'s catalogue the retail prices of the trees mentioned above, which will serve as a guide to those purchasing elsewhere. These trees are of moderate size, good habit and vigorous growth. Very large trees are more expensive.—[Ed.]

Elms, 50 cts. each, except the Scotch Weeping Elm, which is \$1. Magnolias—*Macrophylla*, \$2; *Cucumber*, 50 cts.; *Cordata*, \$1 to \$2. *Liquidamber*, 50 cts.; Tulips, 50 cts.; Virgilia, \$1 50.

"YOU DON'T KNOW BEANS."

To the Editor of the American Agriculturist.

I will grant, Mr. Editor, that this caption, contained in your February number, is applicable to myself, and yet I know a bean, and one that, in my estimation, is altogether superior to any that you have described for making that world-renowned dish, "*succotash*." Not to be able to make that dish in perfection, detracts from the character of any woman who claims to be a Yankee housekeeper. The bean I refer to I have long known, and cultivated, as the Neapolitan. It is a small pole bean, of a dash purple color, with the habits of the cranberry. The pods, which are the desirable part for use, should not be picked until they have changed their color, from green to a light straw color, and become semi-transparent, and as large as your finger, to be cooked without breaking, when they become soft and pulpy, without anything fibrous about them, and communicate more of the bean flavor to the *succotash* than when Lima beans are used. I will give my method of

MAKING SUCCOTASH.

Take Old Colony sweet corn, *quantum sufficit*, (I prefer this variety to all others cultivated, both for Summer and Winter use.) Let it be cleared of the silk, then with a sharp knife cut off the tops of the kernels; then into another pan press out all the milk by turning the back of the knife, and pressing it from stem to tip, leaving all the skins

of the kernels upon the cobs; let the bean pods be added and both boiled sufficiently, and season to taste, and you have a *succotash* in perfection.

AN OLD GARDENER.

RENOVATING GRASS LANDS,

The very best way, undoubtedly, to improve meadows or pastures that have become impoverished, is to plow them up, manure heavily, and seed them down again. If infested with daisies and other weeds, they should be broken up in the fall, and planted with potatoes or other root crops for several years, and then laid down to grass. If, however, the land is low and wet, and weeds not very troublesome, they may be plowed in mid-summer, manured and harrowed thoroughly, and in September sowed with grass-seed. In most cases, a fair crop of hay will be realized the next season.

But when it is not convenient to pursue this thorough treatment, a good effect may be produced by top-dressing. Spread a good layer of compost or well-rotted manure on the sward, scarify it with a heavy harrow, and sow with a mixture of six quarts Timothy and one half bushel each of red-top and rye-grass seed to the acre, and follow with a light harrow to cover the seed. The manure should be applied quite early in the Spring, so as to be washed in by the April rains. Where barn-yard manure is not abundant, various other fertilizers may be used to good advantage. Guano may be applied at the rate of two hundred to three hundred pounds an acre. It should be mixed, a week before it is wanted for use, with dry, vegetable loam, at the rate of four parts of loam to one of guano, and applied broadcast, very early in spring. Lime, (air-slacked,) is very useful to cold, clayey soils; it is death on mosses and sorrel. Muck and lime, mixed at the rate of five cords of the former to seven bushels of the latter, often produce surprising effects on worn out grass-fields. Muck, mixed with unleached ashes, at the rate of a cord of the first to ten bushels of the last, is nearly as good as barn-yard manure. Where the land has long been devoted to pasturage, it is recommended to give a dressing of bone-dust, ten bushels to the acre. A mixture of plaster, ground bones and powdered charcoal has also been used with very gratifying results.

We hope our readers, in this matter, will try some of these plans, and send us reports of their success.

RHUBARB—A GROWER'S EXPERIENCE.

To the Editor of the American Agriculturist.

In your January number are valuable suggestions on the culture of "Pie plant," which accord well with my own experience for several years past. I have experimented largely, and think I have now reached the "Ultima Thule" of Rhubarb culture, though I would not wish to be opinionated, as is too apt to be the case in Horticulture and Agriculture as in everything else. Each one thinks his own mode of procedure superior to that of any one else.

In setting out the plant, dig a hole as large and deep as a barrel, and fill to within a foot of the top with well rotted manure. Then throw on three inches of dirt, and set the root so that the top will be about two inches below the surface. Be sure and put them where the sun will have access to them the entire day.

The first season after setting out, keep litter around them, and water occasionally if the season

is dry, applying the water at night. Keep the earth loose around them—stirring it every week—and replacing the litter. When Fall comes, put upon each hill two bushels of manure; and in the Spring dig a trench far enough from the hill not to injure the roots, put the manure into it, and cover slightly with earth. If the Summer be dry, water occasionally, and treat in the same manner as before. Pie plant is a gross feeder, and must have a great quantity of nutriment to thrive well.

After the roots have stood three years, dig up and quarter each hill and plant as before, putting the hills four feet apart. If the plants stand the fourth year, they begin to go to seed, and as the roots are considerably exhausted by this time, they do not yield so well.

Managed in this way, on a sandy soil, I have the first year obtained enough from six hills for a family of as many persons, and the second and third years have often supplied two families besides my own.

MILAN, O.

NOTICES TO CORRESPONDENTS AND GLEANINGS.

[We have a very large number of letters from correspondents which must go over to next month for consideration and reply. They could not be attended to in the short month just past, abbreviated as it was, seven days at the beginning by the unavoidable delay in issuing the February number, and three days at the end by the Almanac.]

ANONYMOUS LETTERS—are seldom noticed even.

Woodlands, White Pines, &c.—J. Carter, of Oxford, Pa., asks how to improve those of sparse growth. This is pretty fully answered in the leading article "Work for the Month." Respecting the White Pines alluded to, they will be found difficult to transplant with success unless quite small and removed with a quantity of earth attached to their roots. Better sow the seed in common with yellow locust and other varieties. The cones containing the seed of pines, spruce, hemlock, fir, &c., should be gathered in the fall or beginning of winter, and thoroughly dried. Remove the seeds from them in the spring and sow broadcast. Where forests are cut off, with the exception of a few scattering trees, and the small growth, and cattle and sheep kept from them, there need be no fear but an abundance will spring up. On the contrary thinning will usually be requisite. It would be advisable to cut off only a portion at once, at intervals of a few years. We advise to obtain the drain deposit alluded to, if it contains much decaying vegetable matter. If it be chiefly fine clay it is not worth the carting, unless to be added to very sandy soils—a matter to be discussed in articles on the Mechanical treatment of Soils.

Virgalieu Pear.—J. H. Dudley, of Poughkeepsie, N. Y., asks what he shall do for a tree of the above variety, which produces worthless fruit. This pear commenced to fail at the East some years ago, and that failure appears to be extending through this region. It is only a few years, since good fruit was raised upon the Hudson but now the only really fine Virgalieus are produced at the West. We have tried severe pruning, scraping the bark, and washing with different solutions, but all to no purpose. We advise grafting to Bartlett, Lawrence, or some other good variety.

Insects.—W. S. L.—The insect you speak of upon hot house plants, is doubtless the turtle. Tobacco fumigations will destroy the larva, although they may not affect the insect itself. Wash the plants in a solution of whale-oil soap, or immerse in the solution described under "Hot House," page 3 of the January number. This will destroy almost any insect without injury to the plant.

Pumpkins, Squashes, Melons, &c.—Mixing Seed.—J. G. L., asks "if the fruit of these will mix when planted side by side, or only the seed." It is the seed alone that is affected, else there would be great confusion in the vegetable world. Did the fruit itself mix, we should find a pear tree producing various kinds, a squash vine bearing, perhaps one squash, one pumpkin, and a mongrel between the two, and so on through the vegetable kingdom. Hybridizing does take place, and to preserve a species distinct, care should be observed to plant it away from another of the same class. This however is not perceived the first year, so that where the present crop is the only object, pumpkins, squashes, cucumbers, melons, &c., may be planted together without danger of a mixture. The seed of these, planted another year might be true, but quite likely they would vary somewhat from the original, and if the same practice were

continued, the stock would change greatly or run out entirely.

New Subscriptions Still in Order.

We are abundantly satisfied with the measure of success thus far attending our enterprise. The former readers of this journal, without any urging on our part, or scarcely a word of prompting, seem to have joined in one united effort to bring all their friends and neighbors into the 'Agriculturist Phalanx,' and already our subscription list is many thousands larger than that of any other journal in the world which is devoted to solely Agricultural and Horticultural improvement. For these kind evidences of appreciation, we tender our heartfelt thanks.

But "Excelsior" is our motto. We have no set bounds to the improvement of the Agriculturist intrinsically, or to the sphere of its influence. We extend the invitation to every new as well as old subscriber, to become an agent, so to speak, in diffusing light and information in every direction around him. Every person whom you can induce to read and think, will be benefited thereby. If you deem the Agriculturist the best means of accomplishing this end, set forth its advantages to the unappreciative. If any other journal is better adapted to your purpose, then recommend that one. As for ourselves, we "aim at perfection, hit where we may." Aside from any personal advantage, we should be glad to see this paper go into five homesteads where it now visits one, and that, too, this present season. We are publishing a series of articles which we shall not wish to repeat another year, and yet which we shall wish all our next year's readers to have perused. Cannot many of them be persuaded to commence now, or rather at the beginning of this volume, for the back numbers can be supplied at all times from the stereotype plates.

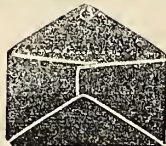
PREMIUMS.—We have no special PREMIUMS to offer, though we will here propose to send an extra package of Sugar Cane Seed, or of the King Philip or Sweet Corn, to any present subscriber for each new subscriber he or she may send in during this month (March), and perhaps later. Every new subscriber will of course be entitled to such seeds as we offer free to all our readers.

About Seed Envelopes.

We have just got through with sending off nearly fifteen thousand packages of Sugar Cane Seeds, and on page 56 have offered to send off some other Seeds in the same manner; and as we expect to follow up this seed distribution, from time to time hereafter, we shall be excused if we give a few simple suggestions in reference to envelopes. A single half minute saved in putting up each of twenty thousand packages into letters, will amount to seventeen days time.

1st. We put up all seeds sent out in paper packages, ready to be dropped into an envelop of the ordinary letter size. One smaller than this is inconvenient, while a large, heavy envelop often doubles the postage.

2nd. When just as convenient, it is better to use an envelop of the "Government Pattern." Those of the common form often fail to close together when any bulky substance is put inside. The former are always safer for all letters, and need not cost over six cents per hundred more than the common kind.



"Government Pattern."



Common Form.

3d. The whole address should be plainly written, and not left to be studied out from the accompanying letter, or guessed at from the post-mark. This will save much time, and insure the proper direction of the seed.

4th. Spell out the name of such states as Massachusetts, Maine, Missouri, Mississippi, Indiana and Iowa. Ms., Mo., Me., Miss., Mass., &c., are often confounded. Ia. is too often used indiscriminately for Indiana and Iowa, and Ia. and La. are frequently written alike: so with Penn. and Tenn.

5th. Put the stamp or stamps upon the right hand side of the envelop—on above the other, if more than one is used. This gives room to Post-mark them without crushing the seed. Our seed letters are usually deposited in our country Post-Office, where they are mailed with extra care, and "mailed direct."

6th. Mark upon the upper left hand corner what kind of seeds the envelop is designed for.

Those forwarding unpaid envelopes will of course not be disappointed if they receive no return. We offer seeds free, but can not, in addition to this, afford to pay postage also.

Always put the postage stamps upon the envelop, and not drop them loosely inside, where they may be lost.

Send only the number of stamps required for postage on the seed. We have no seeds of any kind to

Business Notices.

Forty Cents a Line.

NOTICE TO FARMERS AND GARDENERS

Superphosphates and all other artificial Manures are excelled by SCHWAGER'S "Patent Animal Fertilizer." It consists of Bones, Hair, Hides, Fish, Flesh and Blood from the Offal of the City of New-York, which are converted by the Patent process of JOHN A. SCHWAGER, into a concentrated and granulated powder, in appearance resembling Guano, and of much greater intrinsic value.

Manufactured by this process all the nitrogen and Ammonia is retained, and none of the natural fertilizing properties contained in the above named materials are lost, as must be the case in the use of Shell Lime, Acid, &c., which are employed in the manufacture of the many varieties of advertised Ammoniated Superphosphates. The Patent Animal Fertilizer is furnished to consumers at \$50 per ton. Farmers will require to use only from 200 to 400 lbs. of this manure per acre according to the condition of the soil, and its fertilizing properties will also be very apparent the second as well as the first year, making it by far the cheapest article ever offered to the public. Please notice advertisement in another column.

CHINESE SUGAR CANE.

I am expecting an additional and full supply of genuine Chinese Sugar Cane Seed, from France, which will be ready for the Spring trade at fair prices.

R. L. ALLEN, 189 Water-st., New-York.

GRINDING SUGAR CANE.

In answer to repeated inquiries for cheap portable sugar cane mills, we are happy to inform the public that we have just completed a new and superior one, adapted to the wants of all engaged in sugar making. It will be on exhibition in actual operation at the Fair in Washington, D. C., which opens March 2nd. Full particulars in the April Agriculturist.

HEDGES & FREE,

(SUCCESSORS TO SCOTT & HEDGES.)

CINCINNATI, OHIO.

Plenty of Sugar Cane Seed.

When first making the offer of Sugar Cane Seed, we supposed three or four thousand packages, at most, would be the extent of the demand. But instead of the calls stopping there, they have run up to nearly four times that amount, and are yet coming in at the rate of one hundred and fifty, to three hundred, daily. We have two or three times been troubled to get the seed, but by securing all we could get hold of, at any price asked (in one case \$4 per pound, and in another \$70 per bushel), we have been able to meet all calls from subscribers, and now have some two thousand packages left, with the daily expectation of the arrival of six to eight thousand packages more, so that we can confidently promise at least three hundred seeds free to new or old subscribers not having received them, and also continue the offer of three to four thousand seeds to clubs of six. Of course those wishing this or any other seed will send a ready-directed, post-paid envelop to mail it in. The clubs of six will need to send twenty-four cents for postage, in addition to the \$5 for subscription.

Almost every day brings reports encouraging us to hope much of this plant for the future; still we are constrained to repeat the caution given at the close of page thirty-seven.

Send for lost Numbers.

With the utmost care, an occasional mistake will occur in entering twenty thousand names from letters (not always plainly written), and transcribing them to the mail book, and also in writing the wrappers and mailing to so large a number of different individuals. But every possible precaution is taken to reduce these errors to as few as may be. A much greater source of loss and delay is in the irregularity of the mails, which have been in worse confusion than ever, during the past few months, owing to the great amount of snow and subsequent freshets. We earnestly desire that every subscriber should receive all the numbers of the volume—and we ask each and every one who fails to get any number after waiting for any unusual detention of the mail, to send for a duplicate copy which will always be forwarded freely and with pleasure. As the paper is stereotyped from the beginning of volume XVI, we can always furnish any necessary number, and also send the entire volume to new subscribers. The paper is usually mailed before the first day of each month. Our last number however, was not all mailed before February 10th, for the reason given at the end of page 44.

The Advertisements

will be found as interesting to readers this month as any other part of the paper. They are nearly all on topics pertinent to the farm and garden.

Advertisements.

TERMS—(invariably cash before insertion):

Twenty-five cents per line (of ten words) for each insertion. By the column or half column, \$30 per column for the first insertion and \$25 for each subsequent insertion. For Business Notices forty cents a line. Advertisements to be sure of insertion must be received at latest by the 20th of the preceding month.

WANTED—ON THE FIRST OF APRIL next, a Manager accustomed to the care of stock, to take charge of a large farm, situated in a healthy district, within eight miles of Baltimore city. J. HOWARD MCHENRY, Pikesville, Baltimore Co., Md.

FARM FOR SALE.

THE UNDERSIGNED OFFERS FOR sale the FARM heretofore owned and cultivated by J. M. SHERWOOD, Esq., at Auburn, N. Y. It contains 290 acres, under a high state of cultivation, and offers a rare opportunity for any gentleman who desires to embark in the business of Farming and Stock Breeding. The barns and stables are ample, with an unending supply of water, and all conveniently arranged. The dwelling house is of brick, in modern style, and very pleasantly situated. 20 acres lie in a body, within the limits of the city of Auburn, and will be sold without the other 50 acres, if desired. This very desirable property may be purchased at 50 per cent. less than it would cost to take an ordinary farm and put it in equal condition.

Some of the best stock ever bred by Mr. Sherwood, is still on the farm, and may be had with it. For further particulars, address the undersigned, or J. M. SHERWOOD, Esq., at Auburn, N. Y., or inquire of B. P. JOHNSON, Esq., State Agricultural Rooms, Albany. Feb. 10, 1857. CHAS'P. WOOD.

IOWA LAND. 320 ACRES FINE ROLL-ing Prairie, in Mills county, near Railroad now under construction, for sale cheap. JOHN VANDERBILT, 139 Water-street.

THEMOMETERS, BAROMETERS, &c. of reliable quality and various descriptions, among which are those particularly suited for Horticultural purposes, which register the coldest and warmest degree of temperature during the 24 hours, in the absence of the observer. For sale by D. EGGERT & SON, 239 Pearl-st.

CHICKEN AND HOG FEED.—FOR sale, a quantity of Beef and Pork Scraps, a superior article for swine and poultry, also for manure. Price \$20 per ton. WILLIAM C. HALL, No. 432 Ninth Avenue, New-York.

SPRING GARDEN SEEDS, &c.

THE BEST VARIETIES OF

PRIZE CUCUMBERS and MELONS for frames. Improved New-York EGG PLANT. EARLY TOMATOES, CABBAGES and LETTUCES. Early Paris, Nonpareil, Lenormands and other approved CAULIFLOWERS. PEPPERS, CELERIES, CARDOON. PEAS—Early Daniel O'Rourke, Emperor, Cedo Nulli, Prince Albert, Champion of England, and the recently introduced and very superior later sorts, Lord Raglan, Epp's Monarch, Harrison's Glory and Perfection, &c. GREEN GLOBE ARTICHOKE, WINDSOR BEANS, BEETS, BROCOLIS, RADISHES. CARROTS—Early forcing and other sorts. MUSHROOM SPAWN, HERB SEEDS, SPRING TURNIPS, of all sorts. LIMA CORN—Extra Early Burlington, King Philip and Darling's Sagar, Early Canada and Tuscarora, Evergreen, Old Colony and Mammoth Sugar, &c. CHRISTINAMUSKAND NEW ORANGE WATERMELON. POTATOES—Early Sovereign, Early June, &c. BEANS—Early Snap Short, Valentine and other Bush varieties.

POLE BEANS—Large and Small Lima, Horticultural Cranberry, &c. and every other desirable variety of Vegetable Seeds, all of the very finest qualities, and growth of 1856.

FLOWER SEEDS.—The largest collection to be found in the Union, comprising standard sorts and novelties, both of domestic and foreign growth.

NEW CHINESE SUGAR CANE, 75 cents a pound, and in packages at 25 and 50 cents each, prepared by mail; NEW CHINESE POTATO (Dioscorea Batatas); CHUFAS, or EARTH ALMONDS; JAPAN PEAS; SPRING and WINTER VETCHES, or TARES; OSAGE ORANGE, YELLOW LOCUST, BUCKTHORN, HONEY LOCUST, NORWAY SPRUCE, SCOTCH FIR, and other Tree and Evergreen Seeds.

FRUIT SEEDS—PEAR, PEACH, PLUM, &c. &c. TOBACCO SEED—MARYLAND, VIRGINIA, FLORIDA, CONNECTICUT SEED LEAF, IMPROVED HAVANA, &c. &c. DYER'S Madder SEED, SPURRY, WHITE LUPINS, FULLER'S TEASLES.

BIRD SEEDS—Of all kinds. AGRICULTURAL SEEDS—FIELD and RUTA BAGA TURNIPS, LONG ORANGE, WHITE BELGIUM and ALLRINGHAM CARROTS, MANOEL WURTZEL, SUGAR BEET.

GRASS SEEDS—ITALIAN and PERENNIAL RAY, SWEET-SCENTED VERNAL, RED TOP, BLUE, FESTUCAS, FRENCH MIXED and other desirable mixtures for Lawns, WHITE HONEYSUCKLE, LUCERNE and other CLOVERS, &c.

FRUIT, EVERGREEN and ORNAMENTAL TREES, GIANT ASPARAGUS ROOTS, RHUBARB, &c. GARDEN SYRINGES, BUDDING and PRUNING KNIVES, PRUNING IMPLEMENTS, and a general assortment of the best varieties of HORTICULTURAL TOOLS.

Catalogues on application. If by mail, inclose a three-cent stamp for return postage.

The smallest orders by mail promptly responded to. J. M. THORURN & CO., 15 John-street, New-York.

JUST RECEIVED from Holland, in the finest condition, large and sound, an assortment of BULBS for Spring Planting, viz.:

AMARYLLIS (Jacobean Lilies) FORMOSISSIMA and LUPEA.

GLADIOLUS—Psittacinus, Floribundus, Gandavensis and Remous, named and mixed sorts.

TIGER FLOWERS (Tigrida) Red and Yellow.

TUBEROSES, MADEIRA VINES, &c. &c.

RUSSIA OR BASS MATS, GUNNY BAGS, TWINES, &c., suitable for Nursery purposes, for sale in lots to suit, by D. W. MANWARING, Importer, 248 Front-street, New-York.

"EVERY FARMER SHOULD OWN THEM."

ALLEN ON THE DISEASES OF DOMESTIC ANIMALS.

THIRTY-FIRST THOUSAND.

Price 75 cents, and sent free of Postage, on Receipt of Price. "Its greatest worth is as a 'complete Farrier.'"—Farmer and Mechanic.

"It ought to be in every family where Dairying is carried on."—Worcester Transcript.

"Worthy of a place in every Farmer's Library"—Jeffersonian.

"Just what is needed by every good farmer."—L. I. Farmer.

"A very excellent book on Domestic Animals."—Maine Farmer.

"A most admirable practical work for every day use"—Index.

"The work ought to be in the hands of every Planter."—N. O. Delta.

"When such men as R. L. Allen take up the pen, something flows from it which does his fellow-men good."—Iowa Advocate.

"Here is a Book for the Million, written by a Gentleman of Science and Experience."—Newburyport Watchman.

ALLEN'S (R. L.) AMERICAN FARM BOOK.

The American Farm Book; or, a Compend of American Agriculture, being a Practical Treatise on Soils, Manures, Draining, Irrigation, Grasses, Grain, Roots, Fruits, Cotton, Tobacco, Sugar Cane, Rice, and every Staple Product of the United States; with the best methods of planting, cultivating, and preparation for market. Illustrated by more than one hundred engravings. By R. L. Allen.

One of the most complete Books upon American Agriculture that has yet been published. Price One Dollar. Sent free of Postage. Address C. M. SAXTON & CO., 140 Fulton street, New-York.

FIELD AND GARDEN SEEDS.

A FULL ASSORTMENT OF THE choicest Foreign and Domestic Field and Garden Seeds, raised expressly for my trade. All genuine and of the best kinds. For sale wholesale and retail.

SORGHUM SACCHARATUM, or CHINESE SUGAR-CANE, both of foreign and home growth, put up in dollar packages, with printed directions for planting. Also, by the pound or in larger quantities.

KING PHILIP, or BROWN CORN. WYANDOTTE CORN.

LARGE SOUTHERN CORN. WHITE and YELLOW FLINT CORN.

DARLING'S EXTRA EARLY SWEET CORN. EARLY TUSCARORA CORN.

EVERGREEN, DUTTON, POP and other varieties. POLAND and OTHER CHOICE SEED OATS—The best in market.

SPRING BARLEY—Extra choice quality. SPRING RYE.

SPRING WHEAT—Fife, Tea, Golden Drop, Canada Club and Black Sea.

POTATOES—Prince Albert, very superior. " Dikeman.

" Early June. " Ash Leaf Kidney, Mercer, and other choice varieties.

SPRING AND WINTER VETCHES, BROOM CORN, PEAS of every choice variety, BEANS ditto.

GRASS SEEDS—Timothy, Red Top, Ray, Orchard, Blue Sweet Scented Vernal, Fowl Meadow, &c.

CLOVER—Large and Medium Red, Dutch White, Lucern or Alfalfa, Alsike, Crimson, Sanfoin, Sweet Scented.

MILET—Extra clean for sowing. FLOWER SEED and HERBS—All new and valuable varieties.

RED and YELLOW ONION SETS—Top or Button Onions, Potato Onions.

APPLE, PEAR and QUINCE SEEDS PEACH PITTS, &c.

OSAGE ORANGE.—Yellow and Honey Locust, Buckthorn, MUSHROOM SPAWN TOBACCO SEED—Havana, Virginia, and large Connecticut Leaf—all choice varieties.

BIRD SEED.—Cawary, Hemp, Rape, Maw and Rough Rice. GRAFTING WAX, WHALE SOAP GUANO and SUPERPHOSPHATE OF LIME, in small packages of 25 cents each.

FORCING GLASSES, SYRINGES, and a full assortment of HORTICULTURAL IMPLEMENTS, VINE and FLOWER SCISSORS, GRASS and HEDGE SHEARS, &c., &c.

STRAWBERRY, CURRANT, and RASPBERRY SEED.—Lawton Blackberry, Red Antwerp, Fastolf and Franconia Raspberry, Hovey's, and other choice Strawberries, Crauberry, Pie Plant or Rhubarb, Asparagus, Osage Orange, and other plants.

Fruit Trees and Shrubs of all kinds, in the best condition, furnished to order.

Catalogues furnished on application. BOOKS—A choice variety of standard works on Horticulture, Agriculture, trees, drainage, &c., &c.

R. L. ALLEN, 139 Water-st., New-York.

FIELD AND GARDEN SEEDS, AGRICULTURAL and HORTICULTURAL IMPLEMENTS of the most approved patterns.

Farmers will find it to their advantage to call and see our **LITTLE AMERICAN MOWER and REAPER.**

It weighs only 450 pounds, light draft, no side draft, and warranted to give satisfaction. Sold at the low price of \$100 as a Mower; \$120 as Mower and Reaper. Sold by GRIFFING BROTHER & CO., 60 Courtland-st., New-York.

LINNEUS RHUBARB.

PARSONS & CO., FLUSHING, NEAR NEW-YORK.

OFFER FOR SALE THIS SUPERIOR variety of PIE PLANT, at \$10 per hundred, or \$80 per thousand crowns.

PARSONS & CO.,

FLUSHING, NEAR NEW-YORK,

OFFER FOR SALE AN ASSORTMENT of Trees and Plants which they have grown for the use of amateurs, and have prepared, by frequent transplanting and other means, for success in moving.

They are of fine size and symmetrical form, and among them will be found

STANDARD APPLES of fine quality. STANDARD PEARS, PLUMS and CHERRIES.

PEACHES, APRICOTS and NECTARINES, on Plum stocks and their own roots.

WARF PEARS of fine form, and ready for bearing. GOOSEBERRIES and CURRANTS, strong plants of the best sorts.

RASPBERRIES—FASTOLF, RED ANTWERP, FILLBASKET and other known sorts. STAWBERRIES of all the best varieties.

NATIVE GRAPE—ISABELLA, CATAWBA and other hardy varieties.

FOREIGN GRAPE—All the well-known sorts, with some new varieties of great excellence. These plants are propagated from vines that have borne abundantly for some years, and are known to be correct.

Great care is taken in the cultivation of Fruit trees, and none but those of the best quality are allowed to be sent out.

THE ORNAMENTAL DEPARTMENT

Contains Trees of all sizes for lawns and streets, including Elm, Silver, Norway and Sycamore Maples, Catalpas, Lindens, Tulip Trees, Cypress, Larch, Willows, Ash, Abele, Oriental Plane and all the best varieties of deciduous trees.

It also includes Evergreens of fine size for single planting, and of small sizes at low prices, from one foot upwards, for massing; among them are Norway Spruce, Balsam Fir, Austrian Pine, Hemlock, White Fir, Scotch Fir and other varieties.

The best shrubs include many fine varieties at low prices, for massing, of which the *Rhododendron Catawbiense* can be particularly recommended for its fine evergreen foliage, showy bloom and perfect hardiness.

The ROSES are cultivated in very large quantity, on their own roots, of all the most rare varieties, and to those who purchase in quantity will be sold at greatly reduced rates.

THE EXOTIC DEPARTMENT

Contains a fine assortment of *Camelthas*, grown as nushy, rather than tall, slender plants; and also contains all the well-known varieties of exotic plants and many rare sorts introduced from Europe annually. These are all carefully grown for those who desire plants of symmetry and beauty.

CATALOGUES of all the departments will be furnished on application. Great care will be taken in packing, and trees will be delivered in New-York, and thence shipped as directed.

FRUIT AND ORNAMENTAL TREES.

ELLWANGER & BARRY, PROPRIETORS of the MOUNT HOPE NURSERIES, Rochester, N. Y., solicit the attention of Nurserymen, Planters and Dealers, to the extensive stock now on their grounds, which they are prepared to offer for the ensuing Spring trade.

Their Nurseries were established eighteen years ago, and now occupy four hundred acres of land, closely planted. The stock now growing is the most varied and extensive ever offered in this country, including

STANDARD APPLES for Orchards; DWARF APPLES on Paradise and Doucain stocks; STANDARD PEARS on free stocks 1 and 2 years;

DWARF and HALF-STANDARD PEARS on Quince stocks, 1 and 2 years from bud;

STANDARD CHERRIES on Mazzard stocks, } and 2 years DWARF do. Mahaleb do. } from bud.

PLUMS—DWARF; PEACHES, APRICOTS, NECTARINES, QUINCES, &c.; GRAPES—Hardy, Native and Foreign varieties.

STRAWBERRIES, GOOSEBERRIES, CURRANTS, RASPBERRIES.

RHUBARB and ASPARAGUS, &c.

The collection of bearing Specimen Trees is the largest in the United States. Besides, the proprietors devote their entire time and attention to the business, and they are thus enabled to guarantee the correctness of articles sent out.

THE ORNAMENTAL DEPARTMENT

Is equally complete, and comprises ORNAMENTAL DECIDUOUS TREES of all kinds, including the most elegant Weeping Trees for Lawns and Cemeteries.

EVERGREEN TREES of all the most desirable species, and of all ages and sizes. More than a million of Trees are in a saleable state, and are offered low, in quantities.

EVERGREEN and DECIDUOUS FLOWERING SHRUBS, including almost everything suitable for the climate of the United States.

ROSES—Upwards of three hundred of the most beautiful varieties, carefully selected during many years culture and experiment.

PEONIES—About eighty superb varieties, including many new and very distinct sorts.

PHLOXES—Seventy-five select and beautiful sorts, all of recent introduction.

CHRYSANTHEMUMS—Fifty of the finest *Pompon* or Daisy varieties, newly introduced.

CATALOGUES.

The following Catalogues will be sent gratis to all who apply post-paid, and inclose a stamp to prepay postage:

No. 1—A descriptive Catalogue of Fruits.

No. 2—A descriptive Catalogue of Ornamental Trees, Shrubs, Roses, &c., &c.

No. 3—A Catalogue of Dahlias, Verbenas, Petunias and select green-house and bedding plants.

No. 4—A wholesale priced Catalogue for Nurserymen and Dealers.

SMALL EVERGREENS, CHEAPER THAN IMPORTED.

PARSONS & CO.,

FLUSHING, NEAR NEW-YORK,

OFFER FOR SALE—

Norway Spruce, 1 year planted, \$10 per 100, \$80 per 1,000;

" 2 years " 12 " 100 "

" of larger size, \$15 to \$40 "

Siberian Arbor Vita, 2 1/2 to 3 feet, 60 "

Cedrus Deodara, 2 feet, \$40 per 100

" 3 " 60 "

" 4 " 60 "

Abies Morinda, 1 1/2 " 50 "

Rhododendron Catawbiense, 1 foot, \$50 per 100, with many other varieties suitable for the trade, or planting masses.

NATIVE EVERGREENS—JOHN W. ADAMS, Portland, Maine, continues to forward by steamers or railroads, ARBOR VITAE, FIR, SPRUCE, PINE, LARCH, and other hardy trees, at his usual prices. Catalogues sent to all who enclose stamp.

TO COTTON PLANTERS.

THE COTTON PLANTER'S MANUAL:

Being a Compilation of Facts from the Best Authorities
ON THE CULTURE OF COTTON,
Its Natural History,
Chemical Analysis,
Trade and Consumption,
AND EMBRACING A HISTORY OF COTTON
AND THE COTTON GIN.
By J. A. TURNER.

Price \$1.
Sent free of Postage on Receipt of Price.

GARDENING FOR THE SOUTH.

By W. N. White, of Athens, Georgia. A most complete manual for every department of Horticulture, embracing the Vegetable Garden, the Fruit Garden, the Flower Garden, and the Pleasure Grounds, adapted particularly to the Southern States. Price \$1 25.

To be obtained of all Booksellers, or sent by us prepaid to any part of the Union on receipt of price.

C. M. SEXTON & CO.,
Agricultural Book Publishers,
140 Fulton-street, New-York.

HORTICULTURAL TOOLS—A full assortment of Hedge and Vine Shears, Pruning Knives, Hoes, Rakes, Cultivators, Trowels, Forks, Watering Engines &c. &c.

PLOWS—A large variety of patterns, among which are the most approved Sod, Stubble, Side-hill, Double-mold, Sub-soil, Lock Coulter, Self-Sharpener, &c.

CARTS AND WAGONS—With iron and wood axles, on hand or made to order, in the best and most serviceable manner.

LITTLE GIANT and other Corn and Cob Crushers
For sale by
R. L. ALLEN,
189 and 191 Water-st., New-York.

FRUIT AND ORNAMENTAL TREES
FOR SALE.

THE SUBSCRIBER WOULD CALL attention the coming Spring to our large stock of PEACH and other Fruit Trees, embracing Apple, Pear and Cherry of both Dwarf and Standard, of extra and medium sizes. Also Apricots, Nectarines, Almonds, &c., with a large stock of Evergreens from 8 to 12 feet high, suitable for ornamenting grounds, at low prices. For Nurserymen, 100,000 Silver Maple Seedlings, with other nursery stock, such as French Quince, Plum, Pear, and Mahaleb Cherry stocks.

Catalogues or Trade Lists, with prices annexed, will be sent to all who inclose a 1 cent stamp for each. Address
ISAAC PULLEN,
Hightstown, New-Jersey.

NEW CANAAN NURSERIES—Three and a half miles from the Danbury and Norwalk Railroad depot.—The subscribers are prepared to offer the largest and best assortment of Nursery stock the coming season, they have ever had, consisting of 50,000 Apple trees, three and four years from the bud or graft; 40,000 Peach trees, one year from the bud; Cherry trees, Pear trees, standard and dwarfs. Also, a general assortment of Evergreens and other ornamental trees.

N. B.—We would particularly invite the attention of persons wishing to purchase largely, to our stock of Apple and Peach trees.
STEPHEN HOYT & CO.
New Canaan, Ct., Oct., 1856.

NEW-JERSEY PEACH TREES—FIRST CLASS, 1 year budded, 4 to 6 feet high. I will deliver in New-York city for \$75 per 1,000. Also Pear, Plum, Cherry and Quince Trees.
WM. DAY, Morristown, N. Y.

CRANBERRY PLANTS.

BEARING PLANTS OF THE BELL variety of Cranberry, the best for general cultivation, Prices, 50 cents per 100; \$1 per 1,000; \$15 per 5,000 plants.

UPLAND CRANBERRY—An entire new variety from Newfoundland, smaller Berry, but more prolific, and not as acid as the common Berry, at \$1 per 100 plants.

F. TROWBRIDGE,
Dealer in Trees, Plants, &c., New Haven, Ct.

NEW STRAWBERRIES.

THE SUBSCRIBERS HAVING PURCHASED the entire stock of STRAWBERRY PLANTS belonging to the late Dr. Thomas Edmondson, offer for sale three of his best seedlings (Marylandica, Harlem Orange, Charles' Favorite, at the following rates, viz.:

Marylandica, a staminate variety, vigorous grower, distinct in every feature from any other, having taken the first prize for the last four years, at the June Exhibitions of the Horticultural Society of Maryland, for being the largest and best fruit exhibited; rich crimson color, fine flavor, firm flesh, having frequently been sent to New-York, were firm and fresh when opened,

Price per 100 plants, \$15;
do. dozen do. \$5

Harlem Orange, a pistillate variety, orange color, pineapple shape, firm flesh, and prolific bearer.

Price per 100 plants, \$10;
do. dozen do. \$4.

Charles' Favorite, a seedling from Hovey's Seedling, color, size, shape and flavor, similar to the same, but ripens ten days earlier.

Price per 100 plants, \$8;
do. dozen do. \$3.

100 Plants of each of the above-named, in one order, \$25;
1 dozen Plants do. do. \$10.

We also offer for the first time, the following new seedling Camallias of our own origination, viz.:

Feast Perfection, a fine imbricated flower, pink lilac, purple veined, delicate rose spots, price \$5 each.
Triumph of Baltimore, a large bold imbricated flower, striated carmine, price \$3 each.

Mary Kurtz, a seedling of Edward Kurtz, Esq., of this city, a well-known amateur; color, white ground, striped and spotted with rose, similar to Dutchess of Orleans, a very free bloomer, fine habit, price \$5 each.

One Plant of each of the above-named, in one order, \$10.

SAMUEL FEAST & SONS,
Nurserymen and Florists,
Baltimore, Maryland.



LAWTON BLACKBERRY.

PURCHASERS ARE ADVISED TO obtain the genuine variety, and in original, unbroken packages, and have their ground prepared so as to plant them as soon as received.

For sale in packages carefully prepared for safe transportation.

One package of half a dozen plants,	\$2
" one dozen	3
" two dozen	5
" Fifty	10
" One hundred	18

The money should accompany the order, with name and directions distinctly written.

WM. LAWTON, 51 Wall-st., New-York.

NEW-ROCHELLE OR LAWTON BLACKBERRIES, in large or small quantities, for sale by
R. L. ALLEN, 189 and 191 Water-street.



ISABELLA AND CATAWBA GRAPE VINES, of proper age for forming Vineyards, cultivated from, and containing all the good qualities which the most improved cultivation for over sixteen years has conferred on the Croton Point Vineyards, are offered to the public. Those who may purchase will receive such instructions for four years, as will enable them to cultivate the Grape with entire success provided their locality is not too far north.

All communications addressed to R. T. UNDERHILL, M. D., New-York, or Croton Point, Westchester County, N. Y., will receive attention.

The additional experience of the four past seasons gives him full assurance that, by improved cultivation, pruning, &c., a crop of good fruit can be obtained every year, in most of the Northern, all of the Middle, Western and Southern States.

N. B.—To those who take sufficient to plant six acres, as he directs, he will, when they commence bearing, furnish the owner with one of his Vinedressers, whom he has instructed in his mode of cultivation, and he will do all the labor of the vineyard, and insure the most perfect success. The only charge, a reasonable compensation for the labor.

Also, APPLE-QUINCE TREES, (which are sometimes called the Orange Quince), for sale as above.
R. T. U.

GRAPE VINES—5,000 ISABELLA AND CATAWBA GRAPE VINES, two years old, for sale by
GEORGE W. ATWOOD,
No. 16 Cedar-street, New-York.

ISABELLA GRAPE VINES FOR SALE, from one to three years old, by
S. E. VAN WYCK,
Fishkill, Dutchess County, N. Y.

STRAWBERRIES.

THE SUBSCRIBER CAN FURNISH from his grounds this Spring a few hundred of each of the following varieties of Strawberries—of most of the varieties, many thousands. Persons who may desire to establish plantations of the most approved varieties, may find it to their interest to make early application:

Hovey's, Jenney's, Walker's, and Genesee Seedlings:
Large Early Scarlet, Mowmensing,
Longworth's Prolific, Monroe Scarlet,
Extra Red, Crimson Cone,
Schneike's Pistillate, Willey,
McAvoy's Superior, Iowa or Washington.

Price \$1 00 per hundred;
75 in lots of five hundred;
6 50 per thousand for all except Longworth's Prolific, McAvoy's Superior, and Genesee Seedling.

Also the White and Red Antwerp, Fastolf and Franconia Raspberry Canes, the most approved varieties for garden or field culture.
J. M. WARD, Newark, N. J.

March 1, 1857.

RASPBERRY PLANTS.

10,000 FINE PLANTS OF THE new French double bearing RASPBERRY for sale. They are as large as the Antwerp, perfectly hardy, need no covering, and are the most productive of all Raspberries. In thinning out in the Spring, I shall have about 10,000 more than I wish to keep. They will be packed in mats, and delivered at the depot, New-York city, at the low price of \$5 per 100, or \$40 per 1,000.
P. D. TUCKER,
No. 11 North 7th-street, Williamsburgh, L. I.

LAWTON
BLACKBERRY PLANTS.

The Subscribers announce to their friends and customers that they have now

OVER SIX ACRES
of the

GENUINE LAWTON
BLACKBERRY PLANTS

under cultivation, and in good condition. They are therefore prepared to fill large orders the coming FALL and the following SPRING.

PRICES.

\$20	per	Hundred plants.
\$11	per	Fifty plants.
\$4	per	Dozen plants.
\$2 25	per	Half dozen plants.

N. B. All plants ordered of us will be TAKEN up and PACKED with the GREATEST CARE; and UNDER OUR OWN PERSONAL SUPERVISION

Of the MANY THOUSANDS

sent out by us last year we have heard very few instances of failure, notwithstanding that they have been forwarded to

EVERY PART OF THE COUNTRY, and the setting out has often been entrusted to unskillful hands. Printed directions for setting and cultivating are sent with every package.

GEORGE SEYMOUR & CO.,
South Norwalk, Conn.

LAWTON (OR NEW-ROCHELLE) BLACKBERRY.

WE ARE PREPARED TO FILL ORDERS PROMPTLY FOR GENUINE PLANTS of this remarkable fruit, carefully packed for shipment to any part of the world, from the largest and most reliable growers, at the following

REDUCED PRICES, viz.:

\$20 per hundred; \$11 per fifty;
\$4 per dozen; \$2 25 per half dozen.

Pamphlets treating of Origin, Characteristics and Culture of the plant, forwarded on application.

DREW & FRENCH,
Commission Dealers in Domestic Fruit and Produce,
No. 85 Barclay-street, New-York.

THE SEACOR MAMMOTH BLACK-

BERRY.—(By some called the LAWTON BLACKBERRY by others the NEW-ROCHELLE BLACKBERRY.)—Lewis A. Seacor, the first Discoverer and Propagator of this rare and valuable fruit, respectfully informs his friends and the public that he has on hand a stock of Plants that he warrants of the pure kind, which he offers for sale. All Plants taken up and boxed or bundled in good order FREE OF CHARGE, and delivered in New-York every Friday in the month of April by himself personally, at the following prices: \$18 per 100; \$9 for 50; \$5 50 for 25, and \$3 per dozen.
LEWIS A. SEACOR,
New-Rochelle, Westchester county, N. Y.

THE NEW-ROCHELLE BLACKBERRY.

THE STOCK OF PLANTS OF THE late ISAAC ROOSEVELT is now offered at reduced prices, viz.: \$15 per 100; \$8 for 50, and \$3 per dozen, carefully packed without extra charge, with directions for cultivation with each package.

N. B.—This is the same variety which is by some, though erroneously, called the LAWTON BLACKBERRY. Also HOP TREES—A rare and useful Tree, whose fruit possesses all the properties of the ordinary Hops. Price \$1 each.

P. C. ROOSEVELT,
Pelham, Westchester county, N. Y.

NEW-ROCHELLE (LAWTON) BLACKBERRY—Genuine Plants for sale on liberal terms by the subscriber.
SIMEON LESTER,

Can apply for information at } New-Rochelle,
J. W. LESTER'S, } Westchester Co., N. Y.
No. 161 Water-st.;

or to R. L. ALLEN, 189 Water-street, New York, who has my Plants for sale.

BEES! BEES!! BEES!!!

THE SUBSCRIBER WILL SELL A limited number the coming Spring. The price for No. 1 stocks of last year's swarms will be \$8. For packing on springs in cases, and delivering at the railroad depot, 50 cents each, additional. When three or more are ordered, the "Mysteries of Bee-Keeping" will be added gratis. They will be delivered about the first of April. Purchasers are requested to call and make their own selection, when practicable.

Address M. QUILBY,
St. Johnsville, Montgomery Co., N. Y.

SHORT HORNS AT PRIVATE SALE.

THE SUBSCRIBERS OFFER FOR sale a few Bull and Heifer CALVES, the set of their

Prize Bulls Astoria 221, A. H., and of Lord Vane Tempest 2nd, A. H. B. 669, together with a number of COWS and HEIFERS. We have also for sale a few choice Suffolk PIGS, from the Jackson importation, and a few superior Berkshire PIGS.

Illustrated Catalogues of our stock, and any information concerning them, can be obtained of C. M. SEXTON, 140 Fulton street, New-York, or of the subscribers.

B. & C. S. HAINES, Elizabeth, N. J.

FARMERS WILL FIND AT THE

NEW YORK AGRICULTURAL WAREHOUSE, 189 WATER STREET, every variety of implements necessary to manage their farms with the utmost economy and success. Every form, variety and size of Plows, Harrows, Cultivators, Seed and Corn Planters, Horticultural and Draining tools, &c. &c.

CORN HUSKING MACHINES—A new and valuable invention, costing only \$12, is capable of husking several hundred bushels per day.

COTTON SEED PLANTERS—This is another new and important invention, which will save the labor of several hands, and sow the seed much more evenly, and yield a better standard of young plants than can be secured by hand-planting. Every new and important agricultural implement will be found in this establishment, all made of the best materials and on the most approved principles. As I manufacture all the leading implements in my warehouse, I am able to guarantee their quality in all respects.
R. L. ALLEN.

PERUVIAN GUANO,

In large or small quantities.

R. L. ALLEN, 189 Water-street, New-York.

Beware of adulterated or damp GUANO, and of all other fertilizers that can be mixed or depreciated without detection. The demand for Artificial and Commercial Fertilizers is now so large in the United States, that it is becoming a great object to adulterate them. This has been done to so large an extent in England, as to have called for the most stringent measures for the exposure of rascality and the protection of farmers.

SOMETHING NEW.

GREAT LABOR SAVING MACHINE.

SOMETHING NEW.

SOMETHING NEW.

SOMETHING NEW.

SOMETHING NEW.

SOMETHING NEW.

SOMETHING NEW.

A new contrivance of great value to Farmers generally has just been invented by Jared A. Ayres of the Deaf and Dumb Institute at Hartford, Conn. This apparatus, applied to any ordinary well, renders it equivalent to a living spring, so that cattle, horses, sheep, or any other animal, large or small, will at any time draw for themselves a full supply of water. The same apparatus is applicable to ordinary house wells, so that a woman or child can draw water by simply ascending the steps to the well curb.

The whole apparatus is SIMPLE, DURABLE, CHEAP, and everywhere applicable. A full DESCRIPTION may be obtained without expense, by addressing

HENRY A. DYER, Hartford, Conn.

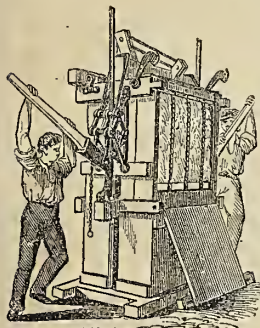
N.B.—The Patent Rights for several of the states, and also for counties, will be sold at a reasonable price.

Ingersoll's

Premium Portable HAY PRESS.

THIS PRESS combines greater power and portability, requires less labor, occupies less space, and costs less money, than any other machine for baling hay ever offered to the public.

It is equally convenient for pressing cotton, hemp, hops, broom corn, rags, husks, &c. Samples may be seen at our warehouse, and circulars, with cuts and full descriptions, will be furnished upon application, by letter or otherwise, to



FAIRBANKS & CO., Scale Manufacturers, No. 189 Broadway, New-York.

ALLEN'S IMPROVED MOWER, AND

MOWER AND REAPER—the best in America. A large assortment of the most approved Agricultural and Horticultural implements, of good quality and at low prices, For sale by R. L. ALLEN, 189 and 191 Water-st., New-York.

GANSE'S PATENT HAND CULTIVATOR

IS NOT INTENDED TO DESTROY

weds after they are grown, but to prevent them from growing, and so to give the whole strength of the soil to the crop. It is to be used as soon as the row of young plants can be seen, when it cleans it upon both sides at once, within an inch, if you wish, without the possibility of tearing up or covering the most delicate young plant. It runs on wheels, and is worked with great rapidity. A man can go over his patch five times with this tool, while he could once with his hoe. It will not work among stones or long manure.

"It is a great improvement upon any hand implement."—New York Tribune.

"We have just witnessed its operation, and have no hesitation in recommending it as perfectly adapted to the purpose intended."—Mouth Inquirer.

"It is one of the great labor-savers of the day. It will entirely revolutionize the system of truck tending."—N. J. Standard.

From Hon. Wm. H. CONOVER, an extensive and successful onion-grower, Freehold, N. J.:

"One man with one of them will go over as much land in a day as five will with common hoes, and do the work much better. If I continue in this gardening business, I would not take one hundred dollars for mine, provided I could not get another."

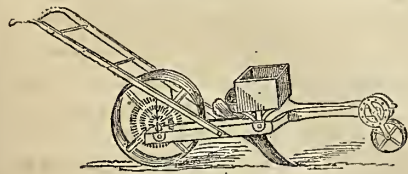
From Messrs. OLCOTT & VAIL, proprietors of Westchester Farm School.

"We are satisfied with its practical value. In judicious hands, it must accomplish all you could wish for it."

Retail Price, \$6. A discount to dealers. For sale by

JOHN GANSE, Manufacturer, 134 Thompson-street, New-York;

R. L. ALLEN, 189 Water-street; and H. F. DIBBLEE, 100 Nassau-street.



DICKEY'S IMPROVED

PATENT CORN PLANTER.

I AM NOW MANUFACTURING THIS invaluable implement, which plants and covers the corn with no more labor than is usually spent in marking out the ground. It is unsurpassed as a planter of Beans, Peas, Sorghum and other similar seeds.

I am also ready to treat with implement makers and dealers for freight to manufacture.

For sale wholesale and retail.

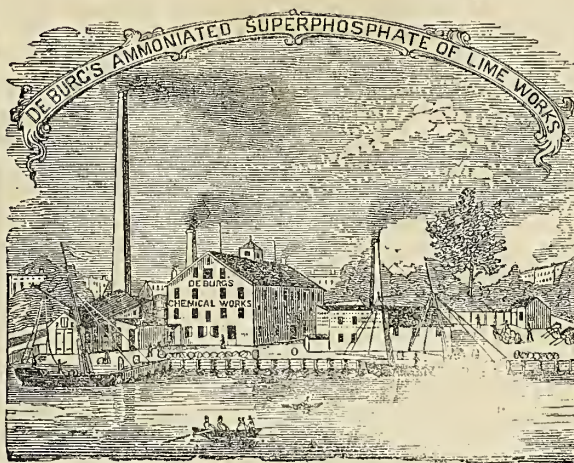
For description, terms, &c., address JOHN OUTRAM, Elmira, N. Y.

DE BURG'S

NO. 1

AMMONIATED SUPERPHOSPHATE.

WARRANTED GENUINE.



BWARE of unscrupulous experimenters and imitators of the above now acknowledged reliable Fertilizer.

The Subscriber tenders his sincere thanks for the liberal support he has received from the Agricultural community for the past six years, and further assures his patrons no exertions shall be wanted on his part to merit their continued support, by supplying them with a uniform article.

Perhaps one of the best proofs of the value of his compound, is the greatly increased demand, unprecedented in the history of Fertilizers, and not equalled by Guano itself. As there are a large number of Superphosphates in market, for the value of which he would not like to be responsible, he earnestly requests all purchasing, to be careful to get the genuine article from himself, or his accredited agents, to whom he holds himself responsible for its good character.

The increasing demand for this favorite Fertilizer still continues. Six years scrupulous trial, on all soils, and in all States, places its success, as a Fertilizer, beyond all problem.

Analysis and testimonials will be forwarded, on application to the Subscriber.

C. B. DE BURG, Four blocks South of Peck Slip Ferry, WILLIAMSBURG, L. I., New-York.

No. 1 PERUVIAN GUANO.

MANIPULATED GUANO—SUPERPHOSPHATE OF LIME, BONE DUST, POUURETTE, &c. For sale by GRIFPING BROTHER & CO., 60 Courtlandt-st., New-York.

TO FARMERS AND GARDENERS.

THE SUBSCRIBERS OFFER FOR sale 40,000 Barrels of their

NEW AND IMPROVED POUURETTE,

Manufactured from the night soil of New-York City, in lots to suit purchasers. This article (greatly improved within the last two years) has been in the market for eighteen years, and still defies competition as a manure for Corn and Garden Vegetables, being cheaper, more powerful than any other, and at the same time free from disagreeable odor. Two barrels (\$3 worth) will manure an acre of corn in the hill, will save two thirds in labor, will cause it to come up quicker, grow faster, ripen earlier, and will bring a larger crop on poor ground than any other fertilizer, and is also a preventive of the cut worm; also, it does not injure the seed to be put in contact with it.

The L. M. Co. point to their long standing reputation, and the large capital (\$100,000.) invested in their business, as a guarantee that the article they make shall always be of such quality as to command a ready sale.

Price, delivered in the city free of charge and other expense:

One barrel.....	\$2 00
Two barrels.....	3 50
Five barrels.....	8 00
Six barrels.....	9 50

And at the rate of \$1 50 per barrel for any quantity over six barrels.

A Pamphlet, containing every information, will be sent (FREE) to any one applying for the same. Our address is THE LODI MANUFACTURING CO., Office 60 Courtlandt st., New-York.

WILLARD FELT, No. 14 Maiden-lane, Manufacturer of Blank Books, and Importer and Dealer in PAPER and STATIONERY of every description. Particular attention paid to orders.

DOCTOR HOOFLAND'S

CELEBRATED

GERMAN BITTERS.

PREPARED BY

Dr. C. M. JACKSON, Philad'a, Pa.

WILL EFFECTUALLY CURE

LIVER COMPLAINT, DYSPEPSIA, JAUNDICE, CHRONIC OR NERVOUS DEBILITY, DISEASES OF THE KIDNEYS, AND ALL DISEASES ARISING FROM

A DISORDERED LIVER

OR

STOMACH;

Such as Constipation, Inward Piles, Fullness or Blood to the Head, Acidity of the Stomach, Nausea, Heartburn, Disturbance for Food, Fullness or Weight in the Stomach, Sour Eructations, Sinking or Fluttering at the Pit of the Stomach, Swelling of the Head, Hurried and Difficult Breathing, Fluttering at the Heart, Choking or Suffocating Sensations when in a lying posture, Dimness of Vision, Dots of Webs before the Sight, Fever, and Dull Pain in the Head, Deficiency of Perspiration, Yellowness of the Skin and Eyes, Pain in the Side, Back, Chest, Limbs, &c., Sudden Flushes of Heat, Burning in the Flesh, Constant Imaginations of Evil, and Great Depression of Spirits.

The Proprietor, in calling the attention of the public to this preparation, does so with a feeling of the utmost confidence in its virtues and adaptation to the diseases for which it is recommended.

It is no new and untried article, but one that has stood the test of a ten years' trial before the American people, and its reputation and sale is unrivalled by any similar preparations extant. The testimony in its favor, given by the most prominent and well-known physicians and individuals in all parts of the country, is immense, and a careful perusal of the Almanac, published annually by the Proprietor, and to be had gratis of any of his Agents, cannot but satisfy the most skeptical that this remedy is really deserving the great celebrity it has obtained.

Principal Office and Manufactory, No. 96 ARCH-street, Philadelphia, Pa. And for sale by all Druggists and Store-keepers in every town and village in the United States and Canada.

PERUVIAN GUANO—THE BEST

quality of Peruvian Guano, with Government weight and brand on each bag, by the cargo, or in smaller quantities, at the lowest price to be had in this market.

SUPERPHOSPHATE OF LIME

Being agent for the most extensive manufacturers, I can supply a first rate article, at the lowest manufacturers' prices.

BONE DUST, coarse and fine ground, also sawings and filings.

POUDRETTE and TAFEU by the barrel.

PLASTER, &c. &c. &c.

This warehouse is the largest depot in the United States for the various kinds of Fertilizers, all of which are guaranteed of the most reliable quality.

Agricultural and Horticultural Implements, Field and Garden Seeds, a large assortment of all the improved kinds.

R. L. ALLEN, 189 Water-st., New-York.

"EMPIRE ANIMAL FERTILIZER."

Manufactured under Letters Patent of September, 1856.

OFFICE, NASSAU BANK BUILDING, 7 Beekman-street, NEW-YORK.

MANUFACTORY, Barren Island; WAREHOUSES, Foot of 43th st., East River.

THIS PREPARATION, ONE OF THE

most important discoveries of the age, is a highly nitrogenized Superphosphate of Lime, with Sulphate and Phosphate of Ammonia, Prepared Blood and Animal Fibre, being the most Concentrated Fertilizer yet offered to the Public.

It is adapted to every Soil, Climate and Crop. The advantages it holds over Peruvian Guano, and the various Artificial Manures that are in the Market, is the fixed state of the Ammoniacal Salts, and the large quantity of nitrogenized matter yielding Ammonia, all being in such a state as to come into action as it is required by the growing plant, and not wasted in the atmosphere, like the easily decomposed Guano or Superphosphate preparations mixed with Volatile Salts of Ammonia. The proportion of Phosphate which this Fertilizer contains is ample to supply the deficiency or absence of those necessary substances which are evidently withdrawn from the soil by the growth of vegetation.

In offering this valuable Fertilizer to the public, I would state that I have arranged for all the dead Animals, Blood and Offal of the city of New-York, which will secure to me a constant and ample supply of Animal matter from which, by my Patent Process, I produce the Phosphates and Salts of Ammonia which form so valuable a part of this preparation.

The Manufacture of the Fertilizer being under the especial and immediate direction of a practical Chemist, and my facilities for obtaining the necessary amount, kind and quality of the materials, enables me to guarantee to the public a uniform and reliable article.

A Specimen of different lots were submitted for examination to Samuel W. Johnson, Professor of Analytical Chemistry of Yale College, New-Haven; W. Gibbs, Professor of the Free Academy, New-York; Lawrence Reid, Professor of Chemistry, and James R. Chilton, Esq., of New-York, gentlemen whose abilities are well known to the agricultural world. They pronounce it the best of all Fertilizers, and their analysis verifies that it contains an average of

8 per cent of pure Ammonia;

20 " Phosphate of Lime;

45 " Organic Matter.

All applications will meet with prompt attention, if addressed to

JOHN A. SCHWAGER, New-York. N.B.—The above article may also be obtained at the Manufacturer's prices, of R. L. ALLEN, 189 Water-street, New-York.

IMPORTANT TO

FARMERS, GARDENERS, AND PLANTERS.

THE BROOKLYN FERTILIZER MANUFACTURING COMPANY

are now ready to offer for sale their Ammoniated Tafeu, as presented at the low price of \$25 per ton. It is a highly efficient Fertilizer, prepared from Night Soil, Blood, and Butchers' Offal, received from the city of Brooklyn under a contract for ten years; therefore, consumers can always rely on its strict purity and uniformity—being manufactured under the supervision of a competent Chemist, and it is warranted to contain a very large per cent of Phosphates, Ammoniacal and Organic Substances, Potash, and other valuable ingredients, as may be seen by the analysis in our Circulars, and is believed to be one of the richest Fertilizers ever used. For orders, or further information, apply to the office of the Company, foot of South 11th-street, Brooklyn, E. D.; or at 82 Water-street, New-York.

N. B.—Circulars with full particulars and analysis will be sent by mail to any one requesting them.

MARKET REVIEW, WEATHER NOTES, &c.

AMERICAN AGRICULTURIST OFFICE, New-York, Feb. 26, 1857.

The unfavorable influences; referred to in our last, obstructed business, during the early part of the month. The recent severe freshets in the rivers of this and the neighboring States likewise, worked against activity in trade. The increased demand for money, and the high rates of interest claimed on loans, also contributed to depress the general markets,—by compelling holders of produce, in want of means to meet the current calls upon them,—to sell their supplies, regardless of prices,—which buyers, under such a pressure, could regulate to suit themselves. This pressure continues—to the injury of the market for Breadstuffs especially as these are the most freely offered—while the demand is comparatively moderate—though gradually reviving with the approach of fine weather. Local and Eastern dealers are the leading buyers. The resumption of navigation on Long-Island Sound has opened the markets of the New-England coast to our merchants. Exporters are purchasing with reserve, notwithstanding the temptations to free movements, offered by the reduced prices of Breadstuffs, as well as by the plentiness of shiproom, and the low rates of freight. The receipts of Breadstuffs have been quite light, but receivers have evinced much willingness to sell and with those, owning supplies in store here, they have very readily met the requirements of buyers, even at the declining rates, current, particularly during the last week of the month. Flour, Corn and Oats, are now most freely offered. Wheat, Rye, and Barley, are comparatively scarce. Cotton is much dearer, with a fair supply and an active demand. Our available stock is estimated at about 82,500 bales, against about 47,200 bales same time last year. Owners are not anxious to sell, unless at full prices. Provisions are more inquired for at decidedly higher prices—especially for Hog products. Telegraph advices from Cincinnati, to Wednesday evening, report the latest returns of the hog slaughtering in the West, this season, as showing a deficiency of about 25 ¢ cent in number, and of about 5 ¢ cent in weight, as compared with the returns of the preceding season. This news affords much encouragement to factors, who show no hesitancy in availing themselves of the advantages which it occasions, in order to secure their own prices for such lots as they have to dispose of. The receipts of Provisions here are limited, as are likewise our available supplies. Groceries are in better request, yet, with pretty ample stocks of most articles, in market, prices show no remarkable changes. Hay opened with a reduced supply, and fair inquiry at very full rates, but during the past week, it has come in more freely, and though the demand has been pretty brisk, partly for shipment to Cuba, prices have favored buyers. Hemp, Hops, and grass seeds are, quiet, yet held with firmness, stocks generally being limited. Rice attracts more attention and is a shade dearer. Tallow, Tobacco and Wool, are in improved demand at rather better prices.

We annex a comparative list of the closing prices of the principal agricultural products, last month and this, showing the fluctuations since our previous issue:

Table with columns for Jan. 30 and Feb. 26, listing prices for various agricultural products like Flour, Rye, Wheat, Corn, etc.

Table listing prices for Seed, Wool, Domestic, Hemp, Flax, Hay, Tallow, Whisk, and Oil.

We also append a similar comparative list of the closing rates of freight, on the leading articles of Domestic produce, being shipped for Liverpool. These rates are given in British, or sterling currency, which our leading shippers mainly employ in their freighting business. A British Shilling is equal to 23 cents of our money:

Table comparing freight rates for January 30 and February 26, listing items like Flour, Grain, Cotton, Beef, etc.

The subjoined tabular statement presents summaries of the total receipts of the leading kinds of Breadstuffs, by railroad and coastwise, for twenty-five business days, ending to-day, of the exports from the port of New-York for the same period:

Table showing Receipts, Sales, and Exports for Wheat, Corn, Rye, and Barley.

This enables us to make the following comparison of the receipts and sales:

Table comparing Total 25 days this month and last month in bushels.

It also affords the following comparison of the exports, from the port of New-York, for twenty-nine business days last month, and twenty-five business days, this month:

Table comparing Last Month and This Month for Flour, Wheat, Corn, Rye, and Oats.

About 400,000 bushels of wheat are in store at Chicago, to come forward as soon as navigation opens.

CATTLE MARKET.—The receipts of BEEVES for the four weeks ending Feb. 25, were 13,077, a little decrease upon the average receipts of January. The receipts ranged for weeks ending Feb. 4, 3,548; Feb. 11, 2,545; Feb. 18, 3,227; and Feb. 25, 3,757. Prices have varied as follows: Feb. 4th, 1/2c. advance; Feb. 11, 1c. advance; Feb. 18, 1/2c. decline, and Feb. 25, 1/2c. decline, leaving an advance of 1c. during the month. Wednesday, Feb. 25, prices were; Premium cattle, 13c. @ 14c. ¢ lb. net or dressed weight; First quality, 11c. @ 12c.; Medium quality, 10c. @ 10 1/2c.; Poor quality, 9c. @ 10c.; Poorest quality, 9c. @ 9 1/2c.; General selling price, 10c. @ 11c.; Average of all sales, about 10c. @ 10 1/2c.

Receipts of SHEEP show a gain over last month, being 33,599, for the last four weeks. Prices now range at 12c. @ 14c. dressed weight.

THE WEATHER—during the present month has been in direct contrast with that of January. No snow has fallen in this vicinity, nor has the mercury fallen lower than 4°. The past week especially has been very mild and farmers are commencing their spring operations. The frost was nearly out of the ground by the 20th, and blue-birds made their appearance on the 21st. The prospect is favorable for an early spring. Our condensed notes read thus: Feb. 1, 2, clear, and mild; 3, coldest day of the month, mercury 4°; 4, milder, rain at eve; 5 to 7, mild with thick fog, deep mud; 8, rain; 9 to 12, clear and cooler, mercury 5°. morning of 11th; 13, light warm rain, mercury 6°; 14, 15, clear and warm; 16 heavy fog and rain, A. M., clear P. M.; 17, 18, mild and spring-like, with foggy mornings; 19 and 20, fog A. M., rain P. M. each day; 21, blue-birds made their appearance and nurserymen commenced to dig trees; 22 to 25, mild and very pleasant; 26, clear and cooler, froze at night.

Extensive and heavy fogs prevailed for a good portion of the month retarding the otherwise opening navigation.

WHEN MAILED.

This (March) No. will be mailed, a part on Saturday, Feb. 28, and the remainder on Monday, March 2nd. All delays thereafter, are to be charged to the Post Office Department.

BACK VOLUMES AND BACK NUMBERS.

A very few complete sets of Volume XV, have been secured which may be had bound for \$175, and unbound, \$125.

Volumes XII, XIII and XIV, can be had for \$150 each-bound, or \$1 unbound. Postage on unbound volumes 26 cents each. Bound volumes not mailable.

Volumes XI, XIII, XIV and XV, uniformly bound will be furnished for \$6. The same unbound, \$4.

The Agriculturist is now stereotyped, and back numbers can always be supplied from the beginning of the present volume (XVI).

CONTENTS FOR MARCH, 1857.

Table listing contents for March 1857, including articles on Apples, Asparagus, Basil, Beans, Broom Corn, Barley Sprouts, etc., with page numbers.

American Agriculturist.

(VOL. XLVI.)

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; IN-DOOR and OUT-DOOR work around the DWELLING; care of DOMESTIC ANIMALS, &c. &c.

The matter of each number will be prepared with reference to the month in which it is dated, and will be promptly and regularly mailed at least one day before the beginning of the month.

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ORANGE JUDD, A. M., }
EDITOR AND PROPRIETOR.

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VOL. XVI.—No. 4.]

NEW-YORK, APRIL, 1857.

[NEW SERIES—No. 123.

Business Office at No. 191 Water-st.
For Contents, Terms, &c. see page 96.
Notes to Correspondents, pages 90-2.
For Business Notices, see page 92.
For Advertisements, see pages 93-5.

WORK FOR THE MONTH.

I am resolved, this charming day,
In the open field to stray,
And have no roof above my head
But that whereon the gods do tread.
Before the yellow barn I see
A beautiful variety
Of strutting cocks, advancing stout,
And flirting empty chaff about;
Hens, ducks, and geese, and all their brood,
And turkeys gobbling for their food,
While rustics thresh the wealthy floor,
And tempt them all to crowd the door."

DYER'S GRANGER HILL.

The poet has drawn a vivid picture of the scenes about the farm house, as this month opens upon it. It is in this month, that the advancing season begins to be in earnest, and to give unmistakable indications of growth. In March, there were fitful gleams of sunshine and warmth, followed by wintry winds, and cold storms. Then the russet-brown of the autumn fields were discolored, and again they were robed in snow. But now the sunshine is in the ascendant, and there is a warmth in the April showers to quicken vegetation. The icicles no longer form from the dripping eaves, and the frosts that occasionally whiten the springing grass do not stiffen the sod. Seeds put in the earth no longer lie dormant. All the vegetable tribes are preparing to reproduce their kind. It is also yearning time among all domestic animals, that are under the supervision of the wise husbandman. Their reproduction is more immediately under his control, and he so forestalls the event, that the young of his flocks shall come forth when the tender grass is first ready for their cropping. Now he reaps the reward for all his care during the long and dreary winter.

The cows are in good flesh, their glossy well combed hair shines in the morning sun, and their calves are strong and healthy. They furnish abundant milk, and the veal is both heavier, and of better quality. The butcher pays an extra price for such calves, and it is with difficulty the farmer can keep his best heifers for raising. The flock of sheep is now suddenly augmented by a large increase. It is sometimes doubled during this month, and the young lambs, scattered over the meadow with their mothers, form one of the most beautiful scenes in the country. Childhood is delighted with their gambols, with their bleatings, and

above all with the maternal solieitude and running, and ealling of the old sheep—It is so like home.

The plans of the farmer are now all made, and his in-door work finished. There is no longer time for fireside musing. The weather invites him forth to the care of his flocks and herds, to the plowing, and planting of his fields. He enjoys the sunlight even more than the fireside, and partakes of that life and activity which marks the opening Spring. No spot, about the farm house, is more bustling than the

POULTRY YARD.

It is a goodly sight to see the proud gait of the cocks, and their obsequious coquettings with the pullets blushing to their comb tips, with the attentions of chantieeler. The ducks multiply their obstreperous quacking, and go prying into all sly corners for places to deposit their eggs. Their plumage is never more beautiful and glossy than in the laying season. The geese are finishing their litters early in the month, and will soon be forth upon the pond with their miniature flocks. What hissing then of ganders, and shaking of ruffled feathers and wings, as if ten tigers were concentrated in the person of the protector of that little group of web-feet. There is something charming in the ferocious dignity of a goose, when he arrives at paternal honors. Thoughtless poodles, and presuming roosters must stand aside, or take the consequences. The turkeys demand wider range, and you will find them remote from the farm house, on some sunny hill side, or under the lee of the woods. Here the gobblers strut in lordly plumage, every feather doing its utmost to express their dignity. For a whole morning you will see them expanding their fan feathers to their fullest dimensions, and thrusting their wings hard upon the ground, and running back and forth among their companions.

No department of farming is more carelessly conducted, than the management of poultry. Because they are small in comparison with neat stock, and require but small capital, and little time to care for them, their importance is too generally overlooked. Farmers are so accustomed to have too little labor for the work to be done in the field, that they grudge every moment of time devoted to the small business of caring for the feathered tribes. But from our experience of many years, we are persuaded that nothing, if we except bees, pays a larger interest upon the capital invested than poultry raising. We kept strict ac-

count of flocks of hens for several years varying from thirty to fifty, charging all they ate, and crediting all they yielded in chickens and eggs. The annual cost of keeping never varied much from a dollar for each fowl, and the annual profit was a dollar and upwards. We have never kept accounts with our water fowls, but from the fact that geese and ducks will draw much of their food from muddy streams, and creeks, for a large part of the year, without cost, we think they will pay about as well as hens. Turkeys, where they can have woodlands and pastures to range in, also pay largely. We know of many farmers, who sell their turkey crop for two hundred dollars annually. This bird is in such great demand now, that it is quite impossible to overstock the market, with a prime article. Farmers in Connecticut have in many instances disposed of their whole flocks at sixteen cents a pound to speculators, who have carried them to the Providence and Boston markets, and realized a handsome profit upon them. Were the raising of poultry to receive that attention which its importance demands, it would become a very considerable item in our national wealth. If there are three millions of families in the country that keep hens and each flock averages ten, we have thirty millions of fowls. Reckoning twelve dozen eggs to each bird we have three hundred and sixty millions of dozens of eggs. The eggs, at sixteen and two-thirds cents a dozen, are worth sixty millions of dollars. As most families are situated in the country, and even in the villages, a few fowls may be kept without much expense or labor. They occupy those leisure moments of our time, and appropriate those wastes of the kitchen, that would otherwise be lost. More of this sixty millions is clear profit, than almost any other product of the farm. It is not yet too late to increase the stock of hens. The tenth of April is the orthodox time in New-England for setting hens, that they may come off the first week in May, when the weather is mild enough for the chickens to live.

SPARE THE CALVES.

The demand of the butcher upon the veals is altogether too indiscriminate. So few of them escape the knife, that all kinds of cattle are extravagantly high. First rate cows are selling readily for sixty dollars and upwards, and oxen for more than twice that sum. Beeves are very high and are drawn from a long distance, to supply the demands of our city markets. There can

be no doubt, that in this state of things, farmers ought to deny the importunity of the butcher, and raise more calves. But if this be done, let not the meanest samples be saved for this purpose. Too many adopt the miserable policy of raising only what the butcher leaves, and thus their herd is always depreciating in quality. Select the best heifers, in form and color, and do not turn them off from the cow until they have got a good start. They may be taught to eat slops at five or six weeks old, as well as earlier. There is no substitute for the mother's milk, that will meet all the calf's want. A great point is gained, when a calf comes to the fat pastures of June, strong and healthy. The animal can then make the best use of its food, and develop what is in it. A heifer calf generously treated the first year, brings a calf at two years old, and begins to pay a profit to her owner. This is much better than to stint calves in their first year and get no profit from them, until they are three years old.

There is another point in connection with stock raising, that ought to have more consideration. As a rule, in the older states, we do not keep stock enough for the manufacture of our own manures. We believe the maxim to be a sound one, that the animal products of a farm ought to exceed its vegetable products. Where this is the case, all the manure necessary to keep the farm constantly improving can be made upon the premises. Without this, one must either purchase manures, or diminish the capacity of his soil for future production. Most of our eastern farmers could increase the stock upon their farms, to great advantage. It is far better for the farm, and we think for the farmer in the end, to purchase food for his cattle, than to purchase manures. Either should be regarded as a temporary resort, to bring up the farm to its full working capacity.

MORE LABOR WANTED.

We are persuaded that farmers make a great mistake in supplying so little help in Spring, and Summer. There is too little faith in the capacity of the soil to reward all the labor, that is expended upon it. Many a man, with three hundred acres of land, employs but a single hired man and boy. He has work enough to employ a half dozen, and the work would pay as well for six men, as for one. He expects to be constantly in the field with his men, and could as well direct the labors of many as of a single laborer. Yet he lets full one half of the capital invested in his farm lie idle, and dooms himself to a life of hard toil, for want of efficient help. It is time this penny-wise policy were changed for something better. With the multitudes of able bodied emigrants landed upon our shores every year, no farmer upon the sea board need go without a full supply of labor.

TREE PLANTING

is principally attended to this month. With all that is said upon this subject in our journals, far too little of this work will be done. If you have not a good orchard plant one this spring. Plant trees by the

road side, plant trees around your home, in belts, and groups, so as to shelter it from the heat of summer, and the fierce cold winds of winter. When this is well done, every passing season will lend new charms to the homestead, and bind parents and children to the loved spot with stronger ties.

PARSLEY.

All sensible people upon the farm, who have got beyond the inevitable salt junk and potatoes, like an occasional boiled dinner, with only a tinge of the saline element. There is a theory about Lot's wife, which makes her sad doom a judgment upon her cookery in the days of her prosperity, which we will not repeat here. If such a connection were to be established between dirt and destiny, we should expect to see many pillars of salt about rural grave-yards that we wot of in certain parts of the country.

But without the apprehension of this destiny, many people affect a fresh leg of mutton in the pot with only just enough fat pork to diffuse a wholesome relish through the contiguous leg. Now to crown this leg properly, when served up, parsley is indispensable among all cooks who have once tried it. Chopped fine and diffused in the drawn butter, it gives flavor to both meat and dressing, and makes the boiled leg a very popular institution wherever it is once introduced.

A bed of parsley then, is quite as desirable in the garden as a flock of sheep upon the hill-side of the farm. Parsley is a biennial plant, and is said to be a native of Sardinia, though it now grows wild in various parts of Britain. There are three varieties in common cultivation, the Hamburg, the curled leaved, and the single leaved. The curled leaved is the best, and most ornamental, and has this advantage, that it is readily distinguished from the poisonous plant *Aethusa*, which it very much resembles.

The seeds are very small, and require a fine garden loam. The surface should be very thoroughly raked, and the seed sown in drills one half inch deep, as soon as the ground is ready for working. The drills should be a foot apart, if the plant occupies a bed by itself. The curled parsley is quite ornamental in the garden as well as upon the table, and forms a pretty border for the beds of other vegetables. It is a hardy plant, and when in good soil requires no other attention than to be kept free of weeds. Plant a row or two of parsley, and with a mutton leg break up the monotony of salt meat dinners.

FORCING RHUBARB.

This is easily done by taking up old roots and setting them in a hot bed the first of this month. The frame should be high enough above the bed to give the leaves a full chance to develop themselves. Sound strong roots will start almost immediately, and in a few weeks give leaf stalks a foot long or more. In this way you may anticipate the season of rhubarb pies, a month or more. Nothing is more inviting in the early spring, than this delicious vegetable.

CALENDAR OF OPERATIONS.

APRIL, 1857.

[We put down here a summary of various operations, many of them very common ones, it is true, but a simple catalogue like this will often suggest a piece of work that would otherwise be forgotten. The Calendar is adapted to the latitudes of 41° to 42°. A little allowance must be made for each degree of latitude—later north—earlier south. This table will be made out anew every month and adapted to the season of each year. It will also be greatly enlarged at the planting and sowing seasons.]

EXPLANATIONS.—The letters f. m. l. refer to first, middle, and last of the month.

Doubling the letters thus: ff., mm., or ll., gives emphasis to the particular period indicated.]

FARM.

Agricultural Journals—Run over these afresh, now that the planting season is near at hand, and note whatever will be of assistance in future operations. Preserve all these journals with care, and if not bound have them stitched together with the index and laid away for reference.

Cattle—Continue to feed until the grass has a good start in the pastures. If allowed the range of grass lands very early, they injure them much more by trampling and pulling up the young roots than after the ground has become settled and firm. Give cows with calf extra feed and care.

Cellars—Cleanse, ventilate and whitewash early. This will promote not only comfort but health.

Clover—Sow ff. if omitted last month.

Draining—Reclaim heretofore worthless lands by thorough draining and thus make them the most valuable portions of the farm.

Fences—Make and repair ff. m. clearing grounds from stone and putting them in substantial stone-fence.

Grain—See that sufficient is provided for seed, and that of the best kind.

Horses—Have in good working order.

Manures and Compost—Cart out for use and turn over heaps already in the fields if needed. Continue to make all possible both in the hog pens and cow yards. Don't let them be washed by rains, or the golden stream flow forth to waste. Look under the hen-roosts for some good home-made guano.

Meadows—Keep cattle from trampling over. A penny gained in feed is a dollar lost in the crop.

Oats—Sow f. mm.

Plowing should be industriously followed whenever the ground will admit. Do not turn over clay soil in a wet state as it will "bake" by so doing. Gage your plows a little deeper than last season.

Potatoes—Plant mm. l. on warm soil. Select varieties not subject to decay.

Poultry will require feeding less animal food and more grain this month. If allowed the range of the garden, they will collect vast numbers of worms and grubs which will both afford food to themselves and benefit the gardener. See article on "gapes in chickens," on another page.

Seeds—See page 61, last month.

Sheep and Lambs—Do not turn off too early. Give grain or roots to those with lamb.

Swine—The pens should now show a lively increase of young "porkers" which require care and protection. Give their dams plenty of liquid food with salt and a little meat occasionally. Continue to keep their yards and pens supplied with material for manure.

Tools—See that all are in good working order and new ones provided where necessary. This applies to the working gear of horses and oxen, including carts, wagons, mowing machines, rakes, &c.

Wheat and other Winter grain—Studiously keep cattle and sheep from them during this month. Look over and if any bare spots occur sow spring grain. See article on page.

ORCHARD AND NURSERY.

The Nurseryman will find this a busy month, in fact his principal "harvest time," nor should the Orchardist be idle if he has planting to do this spring. Early planting of deciduous, ornamental and fruit trees is desirable as the spring rains are highly beneficial in setting the earth closely about the roots and fibres, besides giving the trees a good start before drouth sets in. A tree that is to last a whole life time should not be planted in a hurry or carelessly, as you would set a post, but take that time which its importance demands and it will pay more than "ten per cent" upon the extra labor bestowed.

Almonds—Plant ff. m.

Apples—Plant standards and stocks f. mm. l. grafting ff. Seed may still be planted ff. if not already in.

Apricots and Nectarines—Plant ff. m.

Cherries—Complete grafting ff if it was not done last month. Plant ff. m. both seeds, stocks and standards.

Currants and Gooseberries—Plant and strike cuttings of ff. m.

Deciduous Trees and Shrubs—Complete the planting as early in the month as possible to work the ground.

Dwarf Pears—Plant a few in the garden, or on fruit borders, selecting only approved kinds.

Evergreens—May be planted during the month, but we prefer from the first to the 15th of May in this latitude and farther north. The best success we have ever had was last year when the work was done after the middle of May. Every tree flourished finely.

Figs—Plant, layer and put in cuttings ff. m.

Fruit Trees of all kinds—Plant as early as the ground can be properly prepared.

Grafting—Complete ff. especially stone fruit.

Grapes—Plant roots and cuttings, and layer last year's growth ff. m. Read article in present number.

Inarching—Perform on deciduous trees m.; on evergreens ll.

Insects—Search for caterpillars, bores, &c., ff. mm. ll. Mulch newly planted trees as soon as put out.

Peaches—Plant f. m. See article on another page.

Pears—Plant and graft ff. m.

Planting generally—Perform in orchard and nursery as early in the month as possible, except evergreens.

Plums—Plant f. m. Graft ff. cut out all warty excrescences, or better, if the branches on which they appear are small, remove them entirely.

Pruning—Omit entirely during this month.

Quinces—Plant f. m. for fruit and put in cuttings of the Anger's for stocks on which to work the pear.

Raspberries—Uncover old and plant new canes ff. m. l. Scions—Cut ff. See article page 64.

Stone Fruit plant and graft early—Say ff. m. Put in any pits neglected last month.

Strawberries—Read chapters on, in past and present number.

Vines—Plant and propagate by cuttings and layers ff. m.

KITCHEN AND FRUIT GARDEN.

The present is a busy month for the gardener. He will of course be governed in his operations by his soil, &c. As remarked last month, it is not best to be too hasty in putting seeds into the ground, unless everything is favorable. If the soil is cold, stiff and wet, do nothing but drain it in this condition. By no means spade or plow clayey soils while in a *mortar* state, else the rootlets, if the plants succeed in getting through the surface—will find *brick-bats*, instead of finely pulverized soil to serve as their future bed. The calendar below is given under the supposition that no planting has yet been done except in hot bed, although some of the more hardy plants might with safety have been put into open ground during the closing days of last month. Many of the operations now alluded to *may* be deferred till May, but where the ground is in proper condition, and the garden is extensive, it is better, in this latitude to do what can be done this month, especially if early vegetables are wanted.

Artichokes—Plant and dress f. m. or l.

Asparagus—Uncover beds f. to m. and fork in a good dressing. Sow seed and make new beds m. l. See article on page 52, and also in present number.

Basil—Sow m. l. Read article page 62.

Beans—Plant Kidney's and early varieties ll. on warm borders. Provide poles for Limas ff.

Beets—Sow f. m. for early. See another page. Put out roots for seed ll.

Blackberries—Plant New-Rochelle f. m. l. the earlier the better if the soil is warm and dry.

Borage—Sow f. m. l.

Borecole or Kale—Sow f. m. Plant out ll.

Broccoli—Sow f. m. Prick out ll.

Cabbage—Sow ff. m. for early. Plant out from cold frames and hot beds m. ll.

Capsicum—Sow ll. on warm dry soil.

Cardoon and Caraway—Sow m. l.

Carrots—Sow m. l. on trenched or deeply plowed soil. Plant roots for seed ll.

Cauliflower—Sow m. l. Put out those growing in cold frames ll. Hot bed plants may be set in the open ground ll., covering cold nights with glasses or boxes. See article on Forcing.

Celery—Sow in hot beds ff. Put out for seed and sow in open ground ll.

Chives—Plant f. m. l.

Cold Frames—Complete planting from these by ll.

Coleworts—Sow f. m. l.

Compost and manures—Collect and prepare for use, turning over as necessary. Use freely for summer crops.

Corn—Plant a little of Darling's or Stowell's ll., for early use. See article.

Cress—Sow m. l. for first crop.

Cucumbers—Plant in warm situations ll., or under hand glasses m. l. Keep separate from melons and squashes, if seed is to be saved.

Currants and Gooseberries—Plant and put in cuttings f. m. l.

Economize grounds by planting lettuce, cress, spinach, radishes, &c., among other crops.

Egg Plants—Sow in hot beds ff. Plant under hand glasses m. l.

Forcing—See article on another page, also on hot beds in March number.

Garlic—Plant m. l.

Grape Vines—Transplant and fasten to trellises f. m. See article in present number.

Hops—Set out roots f. m. l. Pole ll.

Horse Radish—Plant f. m. l.

Hot Beds—Make and plant ff, if not already done. Read article on page 63. Many of the plants may be put out ll. especially if covered during cool nights.

Leeks—Sow seed f. m. and plant roots for seed.

Lettuce—Sow f. m. l.; also plant from hot beds and cold frames ll.

Marjoram—Sow and plant f. m.

Melons—Plant in warm situations ll. apart from other vines.

Mint—Plant f. m. l.

Mustard—Sow f. m. l. for succession. See article in present number.

Mushroom Beds—Make f. m. l. See article in this number.

Nasturtiums—Sow m. ll.

Okra—Sow ll.

Onions—Sow f. m. and put out sets and others for varieties and for seed. See page 57.

Parsley—Sow f. m., and leave for seed. See article.

Parsneps—Sow and leave for seed m. l. Trench the ground and manure heavily. See another page.

Peas—Sow f. m. l. Hoe and stick early ones ll., if well up. See page 63. Provide brush ff., if not already done.

Plow and subsoil or trench grounds for spring planting but do not work them in a wet state.

Potatoes—Plant early ones f. m. Force ff. as directed on page 60.

Radishes—Sow f. m. l. Pull and use from hot beds ll.

Raspberries—Uncover and tie up canes f. m. manuring and forking up the ground. Make new plantations f. m. l. or when the ground will do to work.

Rhubarb—Uncover and spade in manure ff. m. Sow seed, and set out crowns at the same time.

Salsify—Sow m. l. on deep rich soil.

Sage—Sow and plant m. l.

Seeds—See that the supply is sufficient. Put out winter vegetables ll. for raising your own.

Soils will be improved by mixing. Add sand and muck to clayey, and clay and pond mud to sandy soils.

Spinach—Uncover winter ff. sow f. m. l. for succession.

Squashes—Plant apart from other vines ll.

Strawberries—Uncover ff. if not done. Make new beds f. m. l. Read strawberry article.

Thyme—Sow and plant m. l.

Tomatoes—Sow ff. in hot beds, m. l. in open ground. Plant out ll. protecting if necessary.

Trench grounds for garden purposes—See article.

Turnips—Sow early Dutch, Stone, &c., f. m. l. Put out for seed ll.

FLOWER GARDEN AND LAWN.

There is much that may be done advantageously during this month among the flower roots, and shrubbery of old grounds, and the laying out and planting of new. Early blooming shrubs and perennial plants will be more likely to live, and flower better when planted early. The hot sun and frequent drouth of early summer often injures late planted trees and shrubs.

Where new lawns or grass plots are to be sowed, the sooner it is now done the better, after grading, manuring and trenching or subsoiling.

Annuals—Sow tender varieties in hot beds ff. and hardy ones in open ground ll. Keep a portion to sow in May.

Asters and Balsams—Sow m. ll.

Biennials—Sow m. l. Transplant ff.

Box Edging—Plant and put in cuttings ff. to m., the earlier the better.

Bulbs—Uncover those protected during the winter ff. if not already done. Stir the ground lightly, without injuring the young shoots or flower stalks. Towards the latter part of the month tie up the stalks about to bloom, and shield from warm sun by a screen or awning. Plant out those done blooming in hand glasses, and take up and store autumn flowering.

Carnations and Pinks—Remove from frames and pits m. l. shifting to larger pots or planting out. Sow m. l.

Chrysanthemums—Transplant ff. m. dividing the roots. Sow ll.

Clarkia—Sow m. l.

Clematis—Transplant ff. m.

Coreopsis—Sow m. l.

Dahlias and Gladiolus—If wanted to flower early, start m. in hot beds or houses, or expose in warm situations, covering with earth and protecting in cool weather. By putting them in a box of earth and exposing upon the south side of a building, and taking them in during cool nights, they may be forwarded several weeks.

Daisies—Propagate by dividing the roots.

Deciduous Trees and Shrubs—Plant f. m. to l. as soon as the ground is prepared.

Evergreens—May be planted ll. exposing the roots as little as possible while out of the ground, though May is a better month for planting evergreens in this latitude and further north.

Frames and Pits—Open daily, if mild, to harden the plants. Some of the most hardy may be put out ll.

Grass Edgings—Rake and renew f. m. paring the edges smoothly. Select firm turf from roadsides or pastures for new grounds.

Gravel Walks—Dig up and cover anew ff. old foul walks, and make those needed on new grounds.

Hibiscus—Sow m. l.

Honeysuckles—Plant m. l. Trim and train ff.

Lawn—Rake, and roll ff. seeding or turfing bare spots. Topdress with fine scrapings from the yards, or bone dust, or guano, mixed with earth, or give liquid manure through a sprinkler or watering pot.

Lupine—Sow m. ll.

Manure both old and new grounds, working it into the soil thoroughly.

Mignonette—Sow f. m. to l.

Mulch newly planted trees and shrubs as soon as planted, especially evergreens.

Pansies—Sow m. l.

Perennials—Divide roots and plant ff. m.

Petunias—Sow m. l. Plant ll.

Phloxes—Plant f. m. sowing seed l.

Polyanthus and Primroses—Sow m. l. planting ll. in partial shade.

Portulaccas—Sow ff. m.

Roses—Plant ff. to m. Trim and regulate pillar and climbing varieties ff. See article.

Stock Gillias—Plant ll.

Tender plants and shrubs protected during the winter—Uncover f. m. and arrange their branches for summer growth.

Verbenas—Sow m. l. Plant on borders or masses ll.

HOT HOUSE.

Achimensis—Put four or five tubers in six inch pots watering lightly until they commence growing.

Air freely in mild weather, maintaining a temperature 55° to 80°.

Bark Beds—Renew f. m. if not done last month.

Begonias and other plants requiring a shift to larger pots. Change ff.

Cactuses—Look over frequently, clearing from the mealy bug, and syringe freely.

Cuttings of plants—Take these from firm, matured stems, and put in f. m. l. If not well ripened they will decay or damp off.

Euphorbias—Cut back to get young wood for next winter's flowering.

Flowers in pots—Bring in from the green house to keep up a succession.

Fuchsias—Repot those intended for fine specimens.

Fumigations—With these destroy the green fly, moistening the tobacco before burning it.

Graperies—See article elsewhere.

Leaves of various plants—Clean occasionally with sponge or syringe.

Red Spider—See on "Insects," under greenhouse. In addition, place sulphur upon the flues, the fumes of which will destroy or drive them away.

Seeds—Sow annuals in pots for early borders in the flower garden.

Water—Give freely, sprinkling the flowers and syringing overhead.

GREEN HOUSE.

Air—Admit freely by both front and top sashes. Do not allow the temperature to rise above 70° during the day, or fall below 40° at night.

Callas—Water freely while in bud and flower.

Camellias—Are now nearly out of flower. Syringe freely during mild evenings.

Cinerarias and Pelargoniums—Water abundantly, giving liquid manure once a week.

Cuttings—Put Roses, Verbenas, Geraniums and other similar plants in pots.

Insects—Destroy red spiders and other insects by syringing with one-half pound of Whale Oil Soap mixed with six gallons soft water. Turn the plants so as to syringe the under side. Tobacco fumigations may also be requisite.

Mildew—Dust plants affected, with flour of sulphur, after syringing with water.

Oranges and Lemons—Top dress with fine rotten manure, watering when the surface seems dry.

Oxalises—Put on a dry shelf, withholding water.

Tulips and Hyacinths—As fast done as blooming, plant out m. l. marking the several kinds correctly so that no errors may occur.

Water—Give more frequently and in larger quantities as vegetation advances.

RURAL SURROUNDINGS.

NUMBER II.—ON CATTLE.

In our first talk on this subject we discoursed of the horse. Our discourse is now upon cattle. Let us preface. We have seen various pictures in our time hung upon the walls of parlors, drawing-rooms, and the like, representing different scenes, in which cattle, sheep, and other rural objects, were introduced, and we scarce remember, among them all, seeing a single animal of any description, that if offered for sale in market, would attract the eye of a purchaser wanting a good thing. We once inquired of an eminent landscape painter why such rugged looking cattle, sheep, &c., were painted on his canvass? The reply was that they were *picturesque*! So, the meaner his cattle the more valuable his picture! Why not paint the whole scenery of trees and grounds as mean and contemptible as the cattle? The artists don't know *everything* yet.

Now, utility being a part of beauty, in anything, we hold that the more useful an object is, coupled with our daily requirements, the more beautiful it becomes by association. Therefore, everything which surrounds the rural home should be as perfect of its kind as our circumstances or opportunities will admit. Cows on the farm, or at the country residence, are indispensable. Oxen may, or may not be so. We will commence with the cow. She gives us milk; the milk yields cream; the cream makes butter—three indispensable articles of good house-keeping. Now, what constitutes a good cow? We will give you our definition. *First*—One that gives a large yield of rich milk. *Second*—A gentle, kind creature, that feeds well, and is quiet in her habits. *Third*—Beauty of appearance in form, proportion, color and size—the latter not over large nor diminutively small. There are various breeds of cows as there are of other domestic animals, and good milkers among the most of them. We are an advocate of breeds in everything which is propagated—folks even—for there is a difference, strange as you may think, in the breeds of common humanity, all around us. We could give a chapter on this if we had time, but this is not the subject of our present writing—our discourse is of cattle.

First and foremost then, we acknowledge but two distinct breeds of the cow, which are perfect of their kind, and that are likely to be applied to the use of our people at large, if they seek an *improved* variety—the Short Horn and the Devon. These are so marked in their features and characteristics, and combine, withal, so much of style and beauty, that they will become the universal favorites of those who possess a marked taste in horned animals; although, before we get through, we will mention a couple of others, possessing attractions of a certain character, to which we will yield all proper acknowledgment. In the choice of breeds, somewhat will depend on your climate, soil, and position. If your soil be rich, and your pastures good, the Short-Horn is the cow for your choice. In size, she is large, in

color red, red and white, spotted, roan or creamy white—all beautiful colors when clean, and no color is agreeable when dirty. Her value, depending somewhat on the purity of her blood, her style of appearance and milking quality, may be from \$75 to \$300. For milking purposes only, the first is a reasonable sum, the latter extravagant—even a “breeder's” price. For all useful and ornamental objects combined, a hundred dollars will secure the cow you want; and she is a cheap animal at that. She will give you, on good pasture, twenty to thirty quarts of milk a day, making six to twelve pounds of butter a week, and on hay and slops half to two-thirds the quantity of each for six months of the year, and a proportionably good yield for four months more, allowing her to bring a calf every year. In the pasture, the paddock, the stable or the yard, she is always an object of beauty and admiration, if well kept, and without good keeping no cow is worth anything.

The Devon is a beautiful, graceful, deer-like creature, of a cherry red color, a gazelle eye, an upturned, long, graceful horn, as lithe in her action as a fawn, gentle as a kitten, and usually an excellent milker. Smaller and more active than the Short-Horn, she will subsist on closer pasture and less stable food, although she requires good keep. She will, if of a milking family, give as much milk and butter according to the food she consumes as the Short-Horn; so that in an economical view they are about equal—the point of difference being in the taste you indulge for one or the other variety. Her *sale* value is in about the same proportion to the Short-Horn as her weight and quality. In hill or mountain scenery, the active Devon is perfectly suited to the place, while on plain and low land the Short-Horn is in its truer character. Yet either of them, in any habitable place, are useful and satisfactory cows, and beautiful objects to look upon.

Having the place, and wishing to provide yourself with one or the other of the varieties of cows in question, we suppose you to keep one to half a dozen, as your family needs, or the demands of your farm may require, you may need some instruction how to obtain them. If you are accustomed to stock, in their purchase and sale, you know, of course, where to buy them. If not, you must get a trusty cattle jobber, or a friend to do it for you. These descriptions of cattle are now kept in every Northern and Middle State, both in pure and mixed blood, and with one or the other you may be sure of being supplied. And here comes in the policy of your being settled in a good neighborhood—people like yourself, having a taste for good animals, and disposed to keep them. It is of little use to get a fine cow or two for breeding purposes, all by yourself. You are disposed to keep them good to propagate their kind, of equal value at least, and to improve them if you can. If you keep too few cows to afford the expense of a bull, a few neighbors can join in his purchase and keep him for mutual benefit; otherwise it is of little use to keep a fine cow, and breed

from her nothing but scrubs, or bastards, fit only for the butcher, and poor at that. A calf or two can be profitably reared on almost every country place, either to dispose of to your liberal neighbors, or to supply your own increasing wants. All this, however, your own and your neighbor's good sense will govern. But, let the bull affair stand as it may, by all means have the *improved* cow, one or more of them.

Though naming the Short-Horn and Devon as the cows we prefer, and which, owing to their rapid dissemination over the country, are easy to obtain, there are two other varieties which have their advocates, and are truly useful, and in their own separate characters, valuable milkers, as well as agreeable objects of sight. We allude to the Ayrshire and the Alderney. The first of them is the famous Scotch dairy cow, a composite variety, bred near a century ago, into a class, by a cross of the English Short-Horn bull, on the native Kyloe, acclimated on the Scotch low lands. She is usually red and white in color, the red rising into a yellowish dun, or falling into a chestnut brown, her general appearance being that of a diminutive Short-Horn, with less style and symmetry, but still of a marked character. They are good milkers, though not so good in America as in Scotland, (in which latter country the frequent rains give them always good pastures,) but still good both in milk and butter. They are gentle, kind in temper, and easily kept.

The Alderney is the “paddock” cow of the English gentry in the south of England. The Channel Islands of Guernsey, Alderney and Jersey, are her native soils, where she has for centuries been bred and improved—brought originally from the adjacent coast of Normandy. She is a diminutive creature, fawn color and white in complexion, with a soft, silky udder, yielding a moderate quantity of the creamiest milk in the world! She is delicate, too, in habit, requiring warm housing in rough weather, and plenty of nutritious food. She is not beautiful to the eye, wearing a scraggy look; but with the eye of a gazelle, and a head as blood-like as the elk—more like an elk, in fact, than any other—bating the horn, which is a little crumpled thing that may barely be called a horn. She is sway-backed, crooked-legged, and cat-hammed, yet, withal, has a look of caste and high-breeding, even in her diminutive ugliness, and will ornament your paddock yard or pasture, as your taste or partiality may direct.

Thus we have given you a selection of these four varieties, and without declaring our own preference of either, you may view each and select for yourselves. This, however, we distinctly say: that no country dweller need think himself a man of taste who does not adopt one or the other of these, either “thorough-bred,” or of sufficient of the breed in their composition to mark them distinctly from the “common” cattle of the country, and show that he is a man of taste in the selection of his cows. A mean looking cow on a highly-cultivated country place is an absolute disgrace to its

occupant, and no one of any spirit or judgment will submit to the keeping of one where a better can be found. We have seen such, and could name them if we would; but we trust our hints above given will be sufficient to secure better things in the future.

The cow disposed of, the oxen, when they are required, come next under observation.

The bright, high-headed, well-matched Devon ox, is the *beau ideal* of bovine excellence for the yoke, and nothing else will compare with him for activity and docility in harness—that is, in the yoke, at the pole, or the chain. We have seen capital Short-Horns in the yoke; so we have some splendid Herefords, but as a whole they do not compare with the Devons, even when no higher than half-breed; and for all purposes of the working ox, the latter have our decided preference.

We will talk of other things hereafter.

MANURES—CHAPTER IV.

In the preceding chapters it has been shown that all growing plants derive most of their food from the air; that a large amount of sap, and consequently of sap-gatherers, (roots,) are necessary to convey this food from the leaves; that a fine-grained, well-pulverized soil for the minute roots to grow in, is of the *first* importance; that the growth of these roots, and of the plant itself, may be increased by supplying the soil or roots with *organic* (animal or vegetable) matter; that this organic matter must be in a state of decay in order to give up its elements to new plants; that animal matters, which decay more readily, are more immediately beneficial as manures; that the alkalis—lime, potash, ashes, &c.—hasten the decomposition of vegetable matter in the soil, and render it more rapidly available to plants; that aside from the alkalis and plaster of Paris, (sulphate of lime,) for particular soils, the most profitable manures to be purchased are those which contain the largest amount of animal matter, such as *unburned* bones, guano, &c.

The chief resources of manures for every cultivator must, however, be upon his own domains. All fertilizers brought from outside the farm are so much detracted from the legitimate profits of soil culture. What are the home resources?

In general terms, *every organic substance, every particle of animal or vegetable matter upon the farm is a manure.* Among these may be named all solid and liquid excrements of animals, of which the human excrements, and those of poultry, are the most valuable, bulk for bulk; the decaying vegetables, such as straw and stalks of all kinds; the turf of grass lands; the mud and peat of swamps and low grounds; the fallen leaves of trees, the bodies of dead animals; the slops from the house, &c., &c. All of these are substances which no prudent man will neglect or suffer to be lost. The particular method of treating each of these kinds of manures, is to be discussed in future chapters of this series.

Except where swamp muck abounds, the

most abundant source of farm manure is the farm-yard or stables. This is the great mine of wealth to every cultivator whose soil is not already so fertile as to render the application of manures superfluous. How important, then, that we should well understand how to treat these materials to render them most effective. The *principles* of manuring, derived from experience and the suggestions of science, should be understood by every practical man. We have not time now, however, nor space at this season, requiring so much to be said upon work to be done, to dwell long upon principles only.

Taking it for granted that every reader has secured an ample stock of yard manure, or other *organic* matter, let us see what is to be done with it now. The first thing of importance is to see that no unnecessary overheating or decay is allowed. The word *composting* has been sadly abused during a few years past. Though composting is valuable, under certain conditions, we suspect more manure has been lost than saved by this operation. A mass of animal droppings is, in nine cases out of ten, depreciated by heaping it together to ferment and heat and rot. So far as decay takes place, there is a loss of material which has escaped in the gaseous form, and what makes the matter worse, the elements first lost are those most valuable as food or stimulants to the roots of plants.

As a general rule, we would say: *First*, preserve all the materials of the barn-yard, the hog-pen, the poultry-roosts, the privies, &c., as nearly unchanged by heating in a mass, as possible; and *second*, let them be kept under cover, exempt from washing by rains, or water from other sources. Since, under the best circumstances, there will be some loss by decay, all kinds of manure will be improved by adding to them more or less of muck, or plaster, or even ordinary soil. This is particularly the case with horse manure, solid and liquid, and with the urine of all animals.

As previously hinted, muck, swamp mud and bogs, are organic matters not in a state of decay, and these may, indeed they should be composted, that is, be placed in heaps to undergo partial fermentation. This may be effected by mixing with them either a small proportion of easily fermenting yard manure, or in place of this a greater or less proportion of alkaline material, such as ashes, lime or potash. The quantity needed will depend upon the haste required, and the state of the material to be prepared. The more pitchy the muck has become, the greater will be the amount of alkali or "heating manure" required, and the same will be the case if a speedy preparation for use is desired. When practicable, we prefer composting muck or swamp mud with yard manures in preference to alkalis, for in this way the manure itself is preserved; the muck acting as a retainer of the otherwise escaping gases.

Most persons believe that the long straw of the barn-yard should be rotted before its use in the field. Where the immediate benefit of the whole application is the chief

aim, regardless of the previous waste of a portion of the material, this plan is advisable, but where the greatest effect of a given weight of straw, or refuse hay is sought, it should be put directly into the earth, there to rot, as it almost always will do, and yield all its elements to the soil. In this manner we save the whole of its elements, and, moreover, straw mingled with the soil has a decidedly beneficial mechanical effect. But in the yard treatment of manures, it is generally advisable to mingle straw and coarse materials with the animal excrements to absorb urine, and prevent loss of the more solid droppings by decay. The point we would impress is, that no effort should be made to rot these coarse materials by composting them with animal excrements in large fermenting heaps.

We cannot too often, nor too strongly protest against the wasteful practice everywhere pursued of allowing or procuring the fermentation and inevitable loss of manure in the yards arising from such fermentation. As far as possible, let all decaying of manurial substances take place *in* the soil. Where high manuring is desired, as in the garden, and in special cultivation requiring the immediate effect of fertilizers, manures well rotted are needed. These are exceptions, however, to a general rule.

TIME AND MODE OF APPLYING MANURES.

Manures already in a forward state of decay should usually be incorporated with the soil immediately preceding the seeding of the crop which they are to benefit, and where this has been neglected, or impracticable, such manures may be applied afterwards as a top-dressing. There is always a great loss, however, in this mode of application, except in the case of soluble manures used upon a dry soil immediately before a rain, where the material will be speedily washed below the surface. Ground bones, dissolved bones, and other acid preparations which do not evaporate readily, are exceptions to this rule. They may be used as a top-dressing at any period, and upon any soil where there is no running surface water to carry them into drains, or concentrate them in low spots.

Unfermented, coarse manures may well be mingled with the soil for months before their effect is desired. As an illustration, we may state that our most successful results in wheat growing, on a moderately heavy loam, and on clay, have been obtained by plowing in deeply, say from June 10th to July 5th, either a heavy stand of clover, or a thick coat of dry straw of any kind, and letting the ground so manured remain undisturbed, save by harrowing to keep down weeds, and a thorough surface harrowing prior to putting in the seed in September. The dry straw, so long that it is necessary to precede the plow with a hand-rake to prevent clogging at every step, is thus *composted in the soil*, and produces a visible effect during the whole period of the growth of the wheat crop, and afterwards. We have seldom, if ever, turned any of it up undecayed when planting subsequent to the removal of the crop. Observations of the

practice of others confirms our own experience.

The mode of applying decayed vegetables, animal manures, guano, &c., must be determined by the circumstances in each case. As with an animal, so with a plant, much depends upon the *start* it gets in infancy, so to speak. The first food in both cases must be found ready prepared. Such are the milk of the dam, and the "meat" of the seed. After the feeding organs are developed by this first food, both animals and plants help themselves to nourishment. If in addition to its ordinary natural nutriment, a calf, for example, be fed with nourishing, stimulating food, it will develop limbs and larger feeding organs, such as teeth, stomach and intestines, and it will then be able to appropriate more food when it comes to seek its own supply. So with a plant, if around the seed and in contact with it, we place material affording the same elements as the seed itself, the expanding the stem, leaves and roots will be hastened to larger and earlier growth; it will be prepared to appropriate larger and quicker supplies of food from the air, and more sap from the soil. If we would raise large animals and large plants, special attention must be given to the "infant." This illustrates why, as a general thing, large plump seeds produce better crops than small defective ones. They furnish more food to the first organs. In a rich organic soil, the lack of seed nourishment may be less felt, but in a poor mineral soil, large kernels of wheat or corn, large potatoes, &c., will give better returns for labor.

The principle here illustrated must be kept in mind, in manuring. A thimblefull of guano, or a piece of fish or flesh, or a spoonful of decaying manure, a thumb and fingerful of ground or dissolved unburned bones, mixed with the soil immediately in contact with the kernels planted in a corn hill, will often so develop the first organs of growth, that the future product of stalk and grain will be several pounds greater than in an adjoining hill not so treated. We may therefore lay down two rules for the application of manure.

1st. In a rich soil, containing an abundance of organic or vegetable matter to supply the general wants of the roots as they expand in every direction, the chief manure required will be a small quantity of organic material already in a state of decay, to be well mingled with the soil immediately in contact with the seed. Where an abundance of vegetable material already exists in the soil, a little ashes, lime or potash, put in with the seed, will tend to prepare the food already there for immediate use. A year or two since, we saw Dr. Cross, of Elizabeth, N. J., planting a new rich soil, where he added to each hill a handful of hen manure mixed with ashes *just before using*. This, he remarked, had produced the best results. The reason is evident. The potash of the unleached ashes, acting upon the still undecayed manure, produced *nascent* elements (those just on the point of liberation from a compound), and these were at once appropriated. The fertile soil supplied all future necessities of the plant.

2nd. In a soil poor in organic materials, first take care to supply the immediate wants of the young plants by manure in contact with the seed, and in addition to this, let there be diffused throughout the whole space to be occupied by roots, a quantity of organic material, to be appropriated as the continued expansion of the roots may require.

It will seldom pay to manure the entire soil so heavily that an additional application to the seed will not be profitable.

Seeds of all kinds will be benefitted by moistening them with urine, or manure drainings, or guano water, and drying them off with fine poultry manure, or fine dry muck, or especially with plaster. The latter substance appropriates and retains manurial elements from the atmosphere, and from water in the soil. Seeds to be planted or sown in a strongly vegetable, peaty or mucky soil, may well be moistened with water, and dried with unleached ashes or lime; but neither ashes nor lime should be used where liquid manure or guano water is taken for a steep.

MUSTARD.

Almost everybody likes a spoonful of a first-rate pungent article with his slice of cold ham or corned beef. A few epicures pretend to like it on their bread and butter, and apple-pie, but we very much doubt they are in earnest, though there is said to be no accounting for tastes. But no one is certain to get good mustard who buys the yellow dust in small quarter-pound tin cans, or long flat bottles with the stamp of a London manufacturer upon them, probably made, reduced, packed and labeled in some country village at home. There is so much Indian meal and other cheap stuff mixed with it, that all lovers of mustard are sorely disappointed.

To forestall this disappointment, we propose to have every farmer raise his own mustard. It grows as rank as a weed, is wonderfully prolific, and any one who can grow clover can grow mustard. A thimble full of seed of the black mustard, (*Sinapis Nigra*.) will be sufficient to stock quite a plantation.

Though very hardy, and certain to bear seed on almost any soil, it will pay well for thorough manuring and plowing. As it is difficult to gather without scattering some of its seeds, it is better to plant it in a spot by itself, away from the garden. Sow the seeds in drills two feet apart, and when up thin out to a foot apart. This will give room for the plant to develop themselves, and to form full pods. This mode of culture will also give opportunity to keep the weeds down, and thus prevent the admixture of foreign seeds with the mustard. The plants flower in June and July, and are ready for gathering when the pods turn dry-colored. They must be very thoroughly dried before threshing and storing. The seeds part readily from the pod, and the chaff is easily separated.

If one has a good mill for grinding small seeds and spices at home, he will need no

further directions to get good mustard. If he has not let him take a few pound to market, and watch it as it goes through the mill and be careful that he brings away the package that his own mustard flour is put into, and we will warrant him an article that will not taste like moldy meal when he dines on cold meats. He will also have a material for making a genuine mustard poultice that will raise a blister without help. It should always be in the house as antidote for poison. A spoonful taken with warm water gives a powerful emetic, and clears the stomach of all deleterious matters.

Both the white and black varieties are extensively cultivated as a field crop sown broadcast. It grows so readily in our climate that there is no apology for the immense quantity of diluted and spoiled flour of mustard that disgraces the market. Let the farmers raise their own seed. It is an excellent condiment, used in moderate quantities, and the young plants form an agreeable salad. The only objection to giving it a place in the garden is its proneness to scatter the seed, and the difficulty of eradicating it from the ground. Some gardeners, however, make up a bed among other vegetables, which is kept for that purpose year after year, seeding itself while being gathered.

A WORD ABOUT DRAINS.

At this season of the year all drains should be examined, and put in good working order. If their outlets are clogged with dirt or obstacles, they should be cleaned out at once. If any one of them does not run as freely as it ought, it is probable that some obstruction has occurred to the channel somewhere. To find just where this is, walk along the corner of the drain, and you will probably find some wet spot on the surface. Dig down to the drain and find out the cause of the trouble.

Now, also, is a good time to examine the soil of the farm and garden, to see whether they need draining. If surface water crops out at any point, and stands for any length of time without passing off, it is quite obvious that draining would benefit such ground. The very extended and careful experiments which have been made both in England and in this country, show conclusively that all heavy, springy land, are made warmer and more productive by draining; and that the increased yield of crops from lands so treated covers very soon, and more than covers, the cost of such work.

The early part of this month is an excellent time for making drains. The frost is now coming out of the ground, leaving it soft and easy to dig, and the hurry of Spring work has hardly arrived. We trust our suggestions will be heeded. More are to come.

"CAN'T AFFORD IT."—"Come in, Joe, and let's take a drink."

"No, Thomas, I can't afford it."

"Well, but Joe, I'll pay for it."

"Oh, I am not speaking of loss of money, Thomas, but of loss of health and energy, moral principle, character, peace of mind, self respect and sweet breath."

CULTIVATION OF THE PEACH—NO. II.

To the Editor of the American Agriculturist.

I now propose to consider the raising of young trees, with some remarks on budding, after culture, &c. The only method used for propagating the peach is from the seed or pits, and in no branch of Horticulture can I conceive it of greater importance to secure *good seed* than that of the peach. I would as soon have the Canada thistle sown with grass seed, or the wild onion with wheat, as I would plant and grow diseased peach pits, if I knew it. There is scarcely any part of the country where *budded trees* are planted which is exempt from the yellows. No *cure* has yet been found for this disease, except instant and entire eradication by removal and burning, which I must urge as of vital importance.

It is the planting and rearing of young trees from city-picked pits, and other domestic sources, that is sowing the mischief broadcast all over the land; and until we have more honest or more intelligent cultivators, we may expect plenty of the disease called yellows.

Now, without desiring in the least to impeach any *respectable* person in the Nursery business, I speak of a fact when I say that I knew a man to distribute throughout the country, some 12,000 peach trees, raised, as he himself assured me, from domestic pits, the best of which are of doubtful quality.

MODE OF PLANTING

Assuming that good seed has been obtained, it is customary to provide a bed of clean sand in some out-of-the-way corner of the farm or garden, where it may remain for years. On a layer of sand four inches deep, a layer of pits is spread (*in the Fall*) two inches thick, which are covered with two inches of sand. In the Spring, perhaps two-thirds of them will have sprouted, and should be carefully removed to the nursery, and planted in rows four feet apart and six to eight inches in the row. The ground should be wholly occupied by the trees, instead of having here and there vacant spots planted with *vegetables*. A healthy, well-developed, growing plant, needs *sun and air* as well as simple ground-room. Of course clean culture is not only desirable, but understood to be absolutely necessary. Thrifty, healthy and vigorous trees being the object, frequent stirring of the ground, careful weeding, plucking up the *underlings*, &c., is *essential*.

In August and September, these young plants require budding, which should be done with judgment and care, or the labor is lost and the trees are materially injured. As I consider this matter of *vital* importance, I propose to dwell on it sufficiently long to be clearly understood. Let us suppose that 200,000 peach trees are annually sold from New-Jersey. This immense distribution, therefore, ought not to be intrusted to ignorant and unskillful cultivators. I will first show the difficulties, then point out the remedy. The most formidable enemy to the success of the peach is the disease called *Yellows*, which I shall simply define as a premature and incurable decay, the leaf assuming in its last stages a sickly yellowish cast; hence its name. Now I hold that this *disease is extensively propagated by budding*, just as sure and certain as that any virus is infused into the human system on the point of a knife. It is, therefore, of incalculable importance that the budding should be intrusted only to skillful and intelligent hands,—those familiar with the various phases assumed by this disease,—who would in time *work* this wide-spread disease out of existence. With the utmost vigilance, some plants may turn out diseased, or yellow. An early and total eradication has already been proposed.

Morristown, N. J.

WM. DAY.

POOR SOIL RENOVATED.

DETAILS OF A LADY'S EXPERIENCE.

To the Editor of the American Agriculturist:

I noticed in the February number of your paper (which has been a valuable auxillary to me for the past year), that you will publish articles from ladies that demonstrate improvements where *home* is made happier. I will give you a little of my own experience, wherein that point has been achieved.

The Spring of 1855 found the grounds around my home a barren, unsightly waste, not a shrub, plant or flower, was to be seen. I planted out shrubs, and put seeds into the ground, which I found to be a stiff clay with no good soil upon the surface. The shrubs, by frequent watering and the aid of the ordinary barn-yard manure, sustained only a breath of vegetable life during the Summer. The seeds germinated, peeped out to the light, and then withered away. I was quite discouraged, on being told by my husband that nothing would grow here, as this ground was scraped from the hill above it, and that the surface soil was buried five or six feet deep under this cold, hard clay, which had scarcely the first principle of vegetable life in it. I was truly in a dilemma, as I could not think of living without flowers and pleasant grounds around my home. I cast about to see where I could obtain the requisite information to make this ground productive, and soon resolved to take your paper, from which I received many valuable suggestions. I wish every one in like situation with myself would read the March, April and May numbers (1856) of the *Agriculturist*; they would find them valuable and instructive.* I will, in a few words, give you my mode of making soil on this barren spot. I had the grounds laid out in pear and oval-shaped beds, a portion of this clay scooped out, and then broken up to the depth of one foot, the exact shape of the beds. These I filled with a mixture of equal parts of saw-dust and wood ashes (un-leached), and a small portion of sand with a top-dressing of surface soil two inches deep. On the beds I planted the choicest kinds of perpetual and other flowers, thirty varieties in all; most of them were prolific in blossoms. Many other rare exotics bloomed equally well. I used a small quantity of fertilizer from the pig-sty, in the holes where I planted the bushes and shrubs. On the beds for my annuals, I omitted this, and used only a top-dressing of black mold from the woods, one inch deep. These grounds, that were so arid and desolate the year before, last year were indeed a wilderness of flowers, enjoyed and appreciated by the many who yearly gather here. The pinks, verbenas, balsams and asters elicited much admiration. Many gentlemen of wealth and taste, who had for years prided themselves upon the growth and beauty of their blooms, and had left nothing untried (guano, &c.) to increase their richness in color, eagerly asked me what foreign substance I used to produce so fine flowers. Common as it might appear, I could only answer, they all grew from the mixture before mentioned. One lady told me she counted seventy-nine varieties in blossom at the same time. Many of the seeds were gathered by patients and visitors, and will, I trust, make other rural homes attractive, which otherwise might be without the balmy influence of flowers.

H. D. L. H.

NEW-GRAEFENBERG WATER-CURE, }
February 21, 1857. }

* These numbers are out of print, and cannot be obtained.—Ed.

The art of conversation is to enable others to talk and show their gifts.

A CHEAP AND SUCCESSFUL FLOWER PIT

To the Editor of the American Agriculturist:

The following description may be useful to others: A pit was dug twelve feet long, six feet wide, and six feet deep. The digging occupied one man nearly three days. Locust posts were driven at each corner, and two others on one side for the door, and a lining of spruce boards an inch thick nailed on the inside of the posts, leaving a space of three to four inches between the boards and the earth. This space was closely packed with coal dust, fine ashes, and other similar materials at hand. The bottom was paved with rough stones. The posts were kept firmly in their places by a brace at each end. A common frame-work was then put on, with three sashes; a door fitted closely. The steps were outside of the door and enclosed with a trap door. The sashes sloped about one foot. Wooden shutters were put on in severe weather, and covered with a layer of salt hay. The ground around was neatly sodded, and the frame-work painted, making a very good appearance. The carpenter's bill, including outside shutters, was \$58, making the entire cost somewhat less than \$65. It held about 125 medium-sized pots; and every plant kept in it the past Winter is untouched by frost. It was tightly closed when the severe weather came on, and not opened until the mild days in February.

Westchester County, N. Y.

POTATO BREAD.

A lady correspondent at the West, whom we recognized as a good writer in days of yore, when we were schoolmates together, sends us the directions below. We are partial to well-made "potato bread." It may not be generally known that the starch in potatoes is a healthful and admirable substitute for "hog's fat" in making bread tender or "short," as well as sweet. We suppose it breaks up and overcomes the toughness of the gluten, abundant in all flour, and especially in that grown at the South.—Ed.

On the afternoon preceding baking day, prepare the yeast as for any bread—hop yeast, or brewer's emptyings. With the supper fire, boil some cleanly washed, unpeeled potatoes, say twelve medium-sized potatoes, for two common loaves. One advantage here, is, that "small potatoes" can be used. When done, pour off the water; peel and mash them well; stir in from a pint to a quart of flour, according to their moisture, and let it scald ten minutes. Then add sufficient cold water to make the mixture *milk-warm*. Add the prepared yeast, and let stand in a warm place over night. A common tin pail answers well for the mixture. In the morning, strain the whole through a coarse sieve or cullender into the flour. Stir into stiff sponge or batter, and let it rise; then mix into dough, adding a teaspoonful of saleratus, and as much salt. Leave it in one loaf to rise again, keeping it in a warm place. When light, mold into loaves, and put it in pans for baking. Now, if not made too hard, it only needs to stand fifteen minutes or half an hour, before it is ready for the oven. Bake nicely, and you have a loaf worthy of "A BAKER."

A SIMPLE FRUIT CAKE.

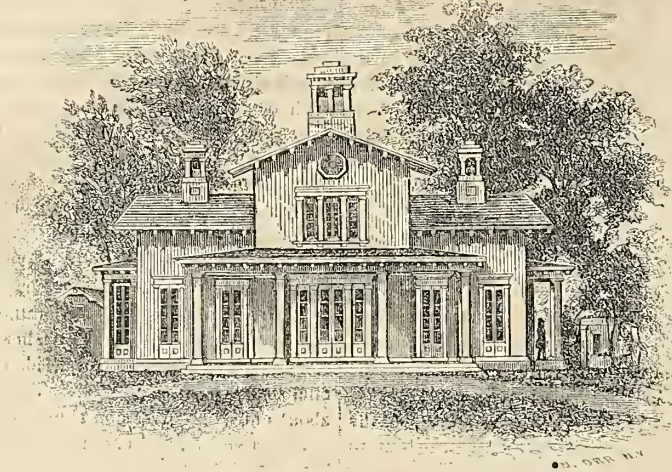
To the Editor of the American Agriculturist.

In common with many of your readers, I like to receive and give any useful hints upon household affairs, and I send you the following recipe, which I think a very good one, especially when, as now, butter and eggs are very high:

One pound of flour; one pound of sugar; two ounces of butter; half a pint of sour milk; one teaspoonful of saleratus, or soda; a little salt; spice and fruit to suit your taste. Mix and bake in the usual manner.

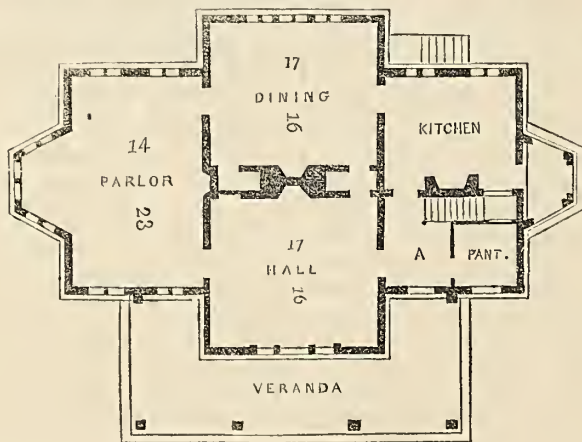
RACHEL LAMSON.

NORTH BROOKFIELD, Mass., Feb. 11, 1857



FRONT ELEVATION.

RESIDENCE OF JOHN R. CHAPIN, Esq., AT RAHWAY, NEW-JERSEY.



Scale of 40 feet.

GROUND PLAN.

PLANTING DARLING'S AND STOWELL'S SWEET CORN.

As stated on page 56, Darling's Extra Early, as it is styled, is chiefly valuable for its rapid growth and early maturity. It is, in our opinion, inferior to Stowell's in point of excellence and amount of yield. It however fills a valuable place, and deserves to be cultivated for early table use, as soon as sufficient seed can be procured. Stowell's, though late, is the best for a large crop, and for planting thickly for soiling, or for green or dry fodder.

Both varieties may be planted at the same time, and in the same manner, though Darling's being smaller, will require less room than Stowell's. It is well to put in a plot of each, at two or three successive intervals of a week or ten days—the first planting being as soon as danger of frost is over. The Darling will probably arrive at maturity, and be used before the Stowell comes on. Where pure seed is to be raised, the two kinds should be kept entirely separate.

Last Autumn we preserved a large quantity of the Stowell variety by boiling the unripe ears a little, and then cutting off the kernels and drying them. It has furnished many a nice dish, cooked with and without Lima beans. At this time it is as good as when first taken from the ears. We advise all who can procure seed to put in a large plot this Spring, say before the 10th of May in this latitude, and earlier South. At the proper time, we will refer to the manner of preserving it.

See page 92.

PLANTING THE CHINESE SUGAR CANE.

We have before directed in general terms to cultivate similarly to Indian Corn. The appearance of the stalk is shown on page 37, where suggestions were given for planting, to which little more need be added. As most of our readers will merely plant for experiment the present season, we advise to divide what seed they have into say four portions, and plant a little on two kinds of good corn soil, as soon as it will do to risk it against the frost, and reserve two portions for later planting on two other portions of similar soil. As stated in our November issue, we did not plant until near the end of May, last year, and yet most of the seed matured before the frost on the 2nd of October. The soil was comparatively poor, and unmanured. A little bone-sawings were placed in the drills with the seed, and in July and August three or four waterings were made with sink-slops.

At the north of this, it will be a good experiment to cut a few square pieces of turf or sod, say two inches in diameter; place a seed or two in the centre of each, and put these into the surface of a box of earth, to be kept in the house or cellar until all danger of frost is past. The plants will get a start, and the separate pieces of turf may then be set in the open ground. These may be prepared at once. A few experiments of the above kind can be made with little trouble, and interesting results may thus be obtained.

The Chinese Sugar Cane will not mix or hybridize with the Common Indian Corn, but it must be kept at a distance from Broom Corn, as well as

from the Doura or Guinea Corn, or the seed will be vitiated and unfit for future use.

It may be planted in hills three feet apart each way, on poor soil, and four feet apart on rich soil, where the plants will grow larger and require more room. If seed is abundant, put eight or ten in each hill, and afterwards thin out to four or five stalks. If seed is scarce, put four to six seeds in a hill. We prefer, for smaller experiments, to plant in drills, dropping the seeds two to four inches apart, and thinning out to five or six inches when the plants are well started, say at the second hoeing. The seed should not be covered deeply. Unless very dry weather prevails, one inch of fine soil is full as much as is needed over the seeds. The subsequent treatment, hoeing and weeding, is to be the same as for Indian corn. At the appropriate season, we shall speak of trials for feeding, syrup-making, gathering seed, &c. If one seed in every ten we have distributed comes to perfect maturity this year, there will be plenty of it another year at a nominal price. Every well-grown stalk will yield from twelve hundred to two thousand seeds or more. A dozen or fifteen stalks will furnish seed for an acre at least. We are not so certain as are some that the seed will be in great demand next year, though we hope it may. This plant has to go through its ordeal the present year.

PLANTING KING PHILIP OR BROWN CORN.

This variety requires no different treatment from other kinds, but is to be planted and cultivated in the same manner. The chief excellence claimed for it is, that it grows rapidly, and comes to quicker maturity. It is valuable for putting into hills where other varieties have failed to come up, or have been destroyed, as it will overtake its slower growing neighbors. But when seed is to be saved, it should be entirely separated from other kinds—not even in an adjoining field, for all varieties of corn readily cross with each other. Let it also be kept in mind that the King Philip produces but a small stalk, and that the hills must be nearer together if a large yield is desired. Three feet rows, with the hills two and a half feet apart in the row, will give ample room. However, where but a few kernels are put out to raise future seed, it is well to give them plenty of space. But for its weight, and the expense of postage, we should have been glad to send much larger quantities to every applicant. In every case the parcels sent out have been weighed, on a Post-Office balance, and there has been put into each envelop every kernel that would not increase the postage beyond the one or two stamps affixed.

WHITE POLAND OATS.

There are two varieties of Poland Oats, the Black and White. Reports of the Black variety are not favorable. The White has generally yielded well, and promises very well. As previously stated, the lot from which our samples are being sent out weighs full forty-two pounds to the measured bushel. To get as much seed as possible, these may be put into a moderately rich soil, and sown in drills with plenty of room. Sow as soon as the ground will bear working well. The general cultivation of the Poland Oats does not differ from the older varieties. We have a fair supply of these for distribution, and will still be happy to send to any subscriber desiring them, as many as will go under a double stamp, if a ready-directed, prepaid envelop is furnished for enclosing them. They should, however, be in the ground by the middle of this month, except in the colder northern sections of the country.

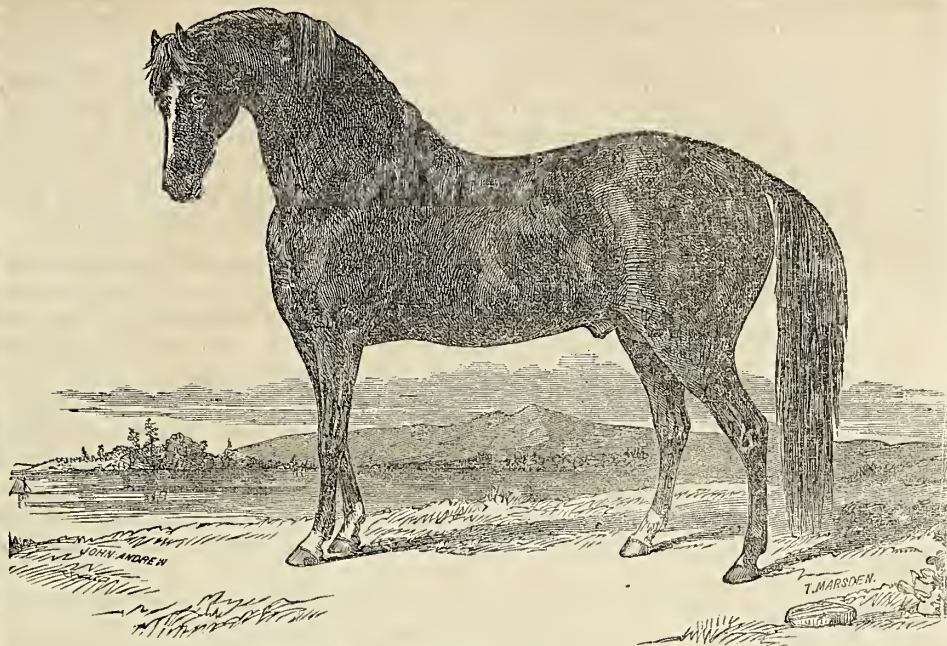
THE WINTER WHEAT FIELDS

Need some attention at this season. Are any of the ditches or dead furrows clogged up so that water stands over the ground, let them be cleared at once. A stroke or two of the hoe or spade may save you a bushel of wheat—if it be but a quart, it will pay for the time. One day upon a ten acre field *now*—not next week, or at some “convenient season,” will be labor well expended.

Are there bare spots here and there, produced by snow-banks or Winter-kill, do not leave them to lie useless for a whole season, or worse than useless, the receptacle of foul weeds. We have often practised successfully, and recommended to others, to scatter Spring wheat upon all such bare spots. If this is done on a cold morning, while the ground is pretty well filled with water, the seed sown will fall into the deep frost cracks, and be covered sufficiently on thawing to secure the germination of most of the kernels. It is well, however, to sow pretty thickly when the covering of the seed is left wholly to the frost. If the soil does not crack open by frost sufficiently, the seed may be put in by hoe, harrow or drill. Around the borders of a field, a harrow may be used; in smaller plots, a hoe will answer; though wherever practicable, a seed-drill is better than either. This whole method may seem to some to be of little account, but it is not so. We have known hundreds of bushels of fair wheat grown in this way, with no extra expense for plowing or mowing. Early varieties of Spring wheat will often come to maturity at the same time with the Winter among which it is sown, and if a little later, these spots can be left for after harvesting. The mixed portion, though not quite as valuable as the unmixed Winter wheat, will still serve admirably for home use, or will sell but little below the usual market rates. Where so much may be produced with so little outlay, it should be looked to now. Wheat-raisers, please try this the present season, and report the results.

BARLEY (MALT) SPROUTS FOR COWS.

In answer to the communication on this subject, on page 58, Mr. Clarkson, of Milford, Pa., writes, that in the Old Country he had much experience in feeding malt sprouts, and they were there considered valuable for stock, and that flock masters bought all they could for their sheep. There are two sorts, one called dunge, which is much used as manure for turnips. The other, the screenings from malt, Mr. C. uses thus: A quantity of it is put into a tub, and as much boiling water poured over it as it will be likely to absorb it is even covered to keep the steam and heat in. To a bushel of this is added one well-filled bushel of cut hay, and one bushel of cut straw—barley straw being considered best. After thorough mixing, it is fed to cows, and they are afterwards supplied with four to eight quarts of finely cut turnips or other roots. He adds: “This plan I have followed Winter after Winter, and my father before me, and so far from being hurtful, I have found it very valuable, and to produce a large increase of milk.”



LONE STAR.

Sire, Vermont Black Hawk; g. sire Sherman Morgan; g. g. sire Justin Morgan. Dam, a black Morgan mare. Lone Star was foaled Spring of 1847, the property of Amos Simmons, of Glen's Falls, N. Y. Now owned by C. C. Thurston, Suffield, Ct.

TIM BUNKER ON AN OLD SAW.

Mr. EDITOR:—You need not think that any of my neighbors have grown envious of my getting the premiums, and rode me out on a rail, or on one of the above articles, tooth side up. And you needn't suppose I am going to write about a *saw*, though it's a very convenient tool about a farmer's workshop. But you see, there is a saying, “Penny wise, pound foolish,” that is always a sec-sawing up and down in some folks' mouths, that they call an old saw, as they do all such like proverbs. I expect they call 'em so, because of the tettering process which such sayings are always undergoing. There is a deal of pith in 'em as a rule, though they are made to apologize for pretty much all sorts of shortcomings. I am now going to bring out this old proverb, “Penny wise and pound foolish,” and putting it on one end of the plank, I mean to give some of the Hooker-town people an airing on the other.

I wish some of our folks up here could look at themselves and their farming in a looking-glass, and just see what sort of work they are making. You see every man thinks every man penny wise but himself. The looking-glass would often bring 'em right.

Uncle Jotham Sparrowgrass I s'pose never spent the value of fifty cents in his life for seeds of any kind before he went in for that China potato last year. He could not see, for the life of him, but what one kind of seed was about as good as another. The onion seed, and carrot and parsnip seed that Mrs. Sparrowgrass always saved and stored away in an old basket in the pantry, always came up and bore something, though the onions might have been mistaken for leeks, they were so little, and the other roots were hardly big enough to make a spile for the cider barrel. Everything else in his garden was just so. The parsnips, cabbage and beets were all crossed, and *run*

out as they call it, and there was hardly a decent vegetable in his garden for want of good seed. He could not afford to buy it when he had it in the house—used to talk about hurting his wife's feelings if he should not use the seed she had saved. That would have been less of a joke, you see, if he had always been careful of her feelings on other occasions. Well, you see, when he read those advertisements in that yellow-covered literature last Spring, he altered his mind some about potato seed, and thought he would put in for a dozen at ten dollars. He was going to be a pound wise man, and show his neighbors some potatoes that were potatoes. Did not he catch it, though? The Sparrowgrass family have hardly had potatoes on the table since. It is said they set bad on Uncle Jotham's stomach.

Now you see I tried this planting of seeds gathered from the odds and ends of the garden, for rising of forty years, and think it is a penny wise business—my onions used to be scullions, my cabbages did not head well, and the tap-roots would often run to seed the first year. Last Spring, you see, when I went down to the city to sell my beef cattle, I went to a first-rate agricultural store, and spent about *ten dollars* in garden seeds. It was those seed, as well as the subsoil plowing and the manuring, that enabled me to take the premiums at the Fair. Seth Twiggs came along the day I was putting them into the cellar, and said: “Waal, Squire Bunker, I dew declare, I never saw such a sight of garden sass going into your cellar afore!”

Seth was right. I never had such roots or cabbage heads. It was fun to pull them. And I have pretty much made up my mind that seed is one of the chief points in good farming. I think there is a difference of one quarter in the crop between good seed and poor. So, when I went down to the city this Spring, I took time by the forelock, and

got another lot of seed at the same place. And I want to say to all your readers in Hookertown, and the rest of Connecticut, that if they expect to compete with me at the fair next Fall, they must burn up the old seed, papers, basket and all, and get the best in the market. It is penny wise business to use poor old seed in the Spring, and mighty pound foolish in the Fall.

Yours to command,

TIMOTHY BUNKER, Esq.
HOOKERTOWN, Ct., March 12, 1857.

THE FIELD CULTURE OF POTATOES.

This crop, which fifteen years ago was a favorite upon all our farms, and among the most productive and profitable, is now very cautiously cultivated. The rot is so general, and so little confidence is felt in the remedies that have been suggested, that no one likes to venture much capital and labor in its cultivation. A few still plant quite largely for the early market in July and August, while all still plant a small patch for home consumption.

Formerly, they were extensively cultivated for making starch, and for feeding cattle, but the rot and high prices have nearly stopped the use of this root for these purposes. The market demand for them is so brisk, and the yield is so generous where they do not rot, that the crop is still one of the most profitable a farmer can raise. The average price in all our northern markets is nearly equal to that of corn, and the yield, with the same outlay for manure and labor, is not unfrequently two or three times as great.

We shall not attempt to speculate upon the cause or causes of the rot. Of all unsatisfactory themes in our agricultural literature, this is the least satisfactory, and we have never seen anything among all the plausible theories advanced, that did not leave us in as much doubt and darkness as ever.

But there are some things that most cultivators have observed in their practice, which are a safeguard against the rot. If not preventives of the disease, it is noticed that potatoes planted under these conditions are much less likely to be affected by it than when planted under other circumstances. It is a conceded point, that some varieties rot much more generally than others. The White Chenango or Mercer, one of our best table potatoes, has become nearly worthless from this cause. It has also been discovered that this crop, in well-drained muck or peat swamps, is very little affected, if sound tubers have been used for seed. Light loamy soils also produce better potatoes than heavy undrained clayey lands. The early varieties that mature in July are much less troubled with the disease than the late ones. The potatoes suffer most in the rainy, hot, and foggy days of August and September. Many instances are upon record, where a part of a field dug just before such a spell of weather, gave fine sound tubers, while the remainder, dug a few days later, gave only diseased ones. Green fermenting manures,

applied at the time of planting, have a tendency to produce the rot.

These facts in potato culture are pretty generally admitted among intelligent farmers, whatever theories they may hold in regard to the disease. They accord with our experience, and from them we shall draw our rules for the cultivation of this crop.

SELECT EARLY AND HARDY VARIETIES FOR SEED.

Far too little attention is given to this matter. A farmer plants what he happens to have on hand, however badly it may have rotted. He not unfrequently plants partially diseased potatoes. Because the Mercer bears the highest price in market, he plants it, although it rots with him very badly four years out of five. There are other varieties nearly as good, quite as early, and more productive, that with suitable precautions will not rot one year in five. In the last report of the Massachusetts Horticultural Society, we notice the Messrs. Hyde & Sons' experiments with several kinds of potatoes, made at Newton. They recommend for general cultivation, the Davis Seedling as a Winter and Spring potato. It is not of the best quality, but a good eating potato, and possesses all the other good qualities, being productive, hardy, and of good size. Next, they recommend for those who want a first rate potato, cost what it will, the State of Maine, Carter, Riley or Worcester's Seedling, also called the Dover. They speak well of the Peach Blow, which is raised in large quantities in various parts of New-England for the Boston market. It is red outside, and yellow within, when boiled. It is a late variety, and yields and keeps well. The Black Chenango is a pretty good potato; keeps remarkably well; seldom rots. Color outside, nearly black; inside purple, which is an objection to it. It is late, and yields well.

We have used for two years past an early variety, common in the Providence market, and known in Eastern Connecticut as the Carpenter potato. It is about ten days to two weeks earlier than the Mercer, prolific, seldom rots, of good size, and fair quality, though not the best. It is white outside, and within. It is in good marketable condition by the fourth of July, and is the best very early potato with which we are acquainted. It will not answer for a main crop, as it begins to sprout by mid-Winter.

The *Studley's Seedling* originated in the garden of Mr. Studley, at Claverack, in this State, is about as early as the Mercer, and as good in quality. From one year's trial, we have formed a very high opinion of its good qualities. The Dover we have cultivated for two years, and the Black Chenango six, and think them both very reliable for a main crop. We think it advisable to have at least half of the field crop of early potatoes, to be marketed in July. For the later crop, we would select hardy prolific varieties, even if the quality was not first rate.

SELECTION OF GROUND.

We would give the first place to drained muck or peat swamp, and if we had any such land lying neglected upon the farm, we would drain it for this purpose, if for no

other. We have known so many instances of sound potatoes raised in such soils, when everything else rotted in the vicinity, that we can have no doubt that there is something in this material very congenial to the healthy growth of this plant.

But if such soils were not to be had, we should

AVOID ALL FRESH FERMENTING MANURES.

It is a good plan to turn in green manures the Fall previous, and where this cannot be done, we would use bone-dust, plaster, ashes, or superphosphate of lime, if we could get a reliable article. We have found a crop of buckwheat turned in the previous year, a very good preparation for this crop. Ashes are an excellent fertilizer. We usually apply them in the hill, at planting, at the first hoeing, and a third time sown broadcast at the blossoming of the vines. We have also experimented with peat and muck that had been thrown up the previous Fall. A shovel-full in the hill gave a very good yield of sound potatoes.

We think that farmers, by observing these precautions in the selection of seed, soil, and manures, may still guard this crop against disease, and make it highly profitable. Careful study of the habits of this plant, and skillful cultivation, will restore it to its former health and usefulness. Prime table potatoes are now selling at three and three and a half dollars a barrel in our market. Somebody ought to raise more of them. The early planted potatoes are most likely to escape the rot. Let them be planted as soon as the ground is dry enough to plow.

TALKS ABOUT BEE CULTURE.

In the January number of the *Agriculturist*, a letter from Mr. Quinby, of St. Johnsville, N. Y., gave a clear and satisfactory account of the mode of constructing a cheap but useful hive; and that such hives may be profitably used would seem to require no further demonstration than the fact stated in the December number, that Mr. Quinby, brought here for sale last year, no less than *twenty-two thousand pounds of honey*, most of which sold readily for 25 cents per pound.

There is little doubt that the culture of bees in the United States may be made to yield a larger *per centage on the capital invested* in it and the labor demanded for it, than almost any other branch of husbandry. It has never yet received the attention that it demands, in our country at least, and while cattle and horses and grains and fruits, and yams and sugar-canes and guano are talked about in every newspaper and at every fair, "the little busy-bee" too modest and inoffensive to intrude, is practically overlooked as if it were of the most trifling importance. The few farmers who keep bees have a periodical ferment about the time of swarming, and there is a strong smell of sulphur in their yards, some cool evening in the early autumn. The deceptive promises of patented hives have led many to abandon bee-keeping in disgust while the rapid increase of the bee-moth has made a demand for precautions that few would take, and the

result is that we consumers pay from twenty-five to thirty-three cents per pound for our honey, and have none too much at that price.

Bee-culture ought to be profitable to every one who will pursue it carefully and intelligently; and so many of our readers are competent to do this, that we invite their attention to the reasons for this opinion.

The original outlay in this pursuit is very trifling. On whatever scale one begins, the money which he invests goes a great ways. We advise those however who are inexperienced, by all means to begin very moderately. Let them procure a single colony, and two or three of the best treatises on the habits and management of bees. No investment in real-estate is required; Mr. Quinby has shown how cheaply a hive may be made, and if at the end of twelve months the bees are dead, and there remain only the books, the hive and a few moldy sheets of comb, the profit in the shape of experience will be enough to counterbalance the loss of capital; and one may begin again with greater confidence and with a good hope of success.

Again, bees multiply with great rapidity, and by careful management one who has ten stocks, may very soon expect to have a hundred; and a moderate increase need not interfere with a large annual harvest of honey.

Then the bees require no outlay for food. Our cattle and horses and sheep are very serviceable, but they must be fed. The bee not only finds its own food but lays up its choicest sweet in store for man. The forest and fruit trees, the white clover pastures, the buckwheat fields yield to them on demand all that they require. It may be found good economy to cultivate land with special reference to the wants of bees, but it is not necessary to a reasonable degree of profit; and while one needs to own or hire his pasture lands, the bee roams where it will, and all the region is its "common." Then the bee never refuses to work when working is of any use. It has the privilege of working seven days in the week, and it works day and night, for when the flowers are full of honey, the making of wax is found to proceed rapidly at night.

When we put these things together, how can it be possible, if the culture of bees is at all practicable, that it should fail to be a source of profit? Here is a creature that "works for nothing and finds itself," that needs no superintendence in its foraging excursions, that asks only for shelter and occasional supervision, and protection from its enemies, and that furnishes an indefinite number of pounds of costly sweets all ready for the table or packed for market, in an attractive form, all of which is absolutely saved from utter waste. What can be more profitable?

Thus far theorizing; the inference is suggested by the "nature of things." We must add some facts and the opinions of men who are "experts" in bee-culture. And here it may be well to remark that no particular form of hive is essential to securing the greatest amount of honey. Various con-

trivances about a hive may facilitate our management of bees, and enable us to secure the surplus honey, in marketable form, but it is yet to be shown that the bees collect more or better honey in the most costly apiary than in their wild state; and probably the most perfect hive is that which allows them to work in a state of nature.

Among American treatises on the subject before us, we have that of Mr. Quinby, which we heretofore commended. Then we have that of the Rev. Mr. Langstroth, worthy of high praise, which should be in the hands of every bee-keeper. He estimates that if "the increase of stocks is limited to one new one from two old ones, under proper management, one year with another, about ten dollars worth of honey may be obtained for every two stocks wintered over." The value of the new colonies, he sets off "as an equivalent for labor of superintendence, and interest on the money invested in bees, hives, fixtures, &c."

He cites also the success of a German bee-keeper, Dzierzon, who beginning anew in 1838, on a new theory of culture, rapidly increased his stocks, till in 1846 he had 360 colonies, which yielded that year 6,000 lbs. of honey, besides several hundred weight of wax. In 1848, however, a fatal disease swept away 500 colonies, and left him but ten remaining; but these he nursed and multiplied by artificial swarms, so that in 1851 his stock consisted of nearly 400 colonies.

Dr. Eddy of Massachusetts, whose brief work on bee-culture is valuable, gives as the result of his experience for twelve years, the opinion that "the profits resulting from a judicious and proper system of bee-culture may be safely estimated at from 100 to 500 per cent per annum." He says: "I have three swarms, which have paid me in honey and increase of stock upwards of \$100 in two years. The average profit upon my entire stock for three years has been 327 per cent per annum, or \$3,27 cents has been the annual profit on every dollar invested." He cites a case where one colony yielded in honey and increase of stock, \$25 in a single year; and another case in the city of Washington, where a swarm produced a new swarm, and five dollars worth of surplus honey; while the new swarm produced 89 pounds of surplus honey which sold for \$20, making the proceeds of the old stock for the season about thirty dollars." And as for time and labor he says, "the aggregate degree of attention which a dozen swarms of bees require during the year is less than a dozen house plants or a single canary would necessarily demand."

Mr. Wood, an English writer, quotes one apiarian as receiving from eight stocks about £20 a year. Another, who was regularly engaged from six to six daily in other avocations, cleared nearly £100 in one year by his bees. "Fifty or sixty pounds of honey have not unfrequently been obtained from a single hive in a season, and occasionally as much as 100 pounds."

Dr. Thacher cites a German writer who saw forty large bee-hives filled with honey,

to the amount of seventy pounds each, in one fortnight, by their being placed near a large field of buckwheat in flower.

But we forbear to cite such facts, for we do not wish to encourage any one to plunge into this business too hastily. The advice of Mr. Langstroth is in point. "Let no inexperienced person commence bee-keeping on a large scale." Let him be satisfied "not merely that money can be made by keeping bees, but that he can make it." And this is the conclusion of the whole matter, that in a land so wide in extent, so rich in its resources, and so full of enterprise, it is a shame and a pity that bee-culture should not receive more careful attention, and be made to contribute to the prosperity not only of the husbandman but of the mechanic and the salesman, and in fact of every householder outside of our larger cities.

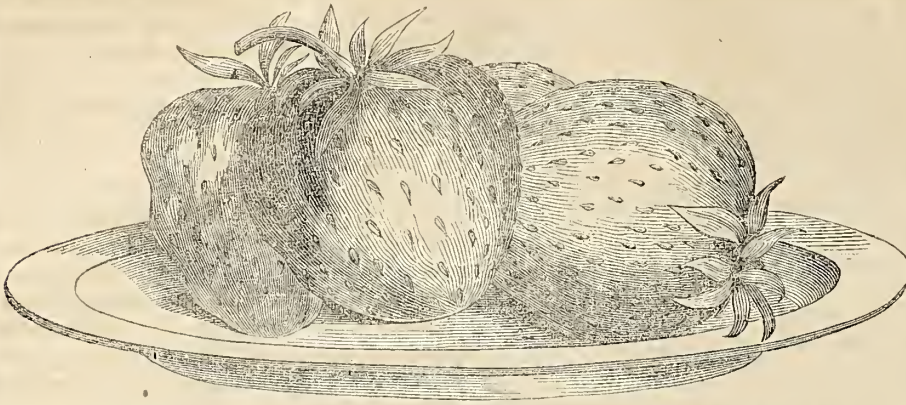
E. W. G.

EFFECT OF SEVERE COLD ON TENDER TREES AND PLANTS.

A recent walk through our grounds revealed some facts worthy of record. It should be premised that, during the past Winter, the mercury with us (in Central New-York) has fallen several times to 20° below zero, and once to 30°. Alas! said we, as we watched the thermometer, this will be the death of our choice and tender trees. When the cold abated, in the latter part of February, we went forth to note our probable losses. The record of observations was as follows:

Deciduous Cypress, a native of the Southern States, but slightly nipped on the extremities of its twigs. *Salisburia*, a native of Japan, two twigs a little injured: it has passed through three Winters here before, with no injury. *Menzies' Spruce*, leaves red as sole leather, but the buds untouched: had no protection. *Swedish Juniper*, unhurt, though a little browned. *Pinus Excelsa*, native of the Himalaya Mountains, perfectly fresh, less pinched than in former Winters; was protected, on the south side, by a few hemlock boughs to keep the sun off. *English Yew*, with a slight protection of straw tied over the top, unharmed. *English Maple*, unscathed. An English gardener in this neighborhood planted it several years ago, and pronounced it too tender for this latitude. *Kentucky Coffee Tree*, untouched. *Gold-barked Ash*, slightly injured on the extremities, but less than in former years. *Virgilia Lutea*, unharmed. *White Fringe Tree*, sound throughout. *Deutzia Scabra*, ditto. *Magnolia Glauca*, slightly injured: it is often cut up badly. *Magnolia Acuminata*, untouched. *Kolreuteria*, ditto.

Most of these trees and shrubs, it will be remembered, are considered tender, and hardly safe to plant at the North. But the observations just made confirm our opinion heretofore expressed, that it is not the extreme cold of Winter that is fatal to such plants, so much as the changeable weather of early Spring. If trees of this description were slightly protected against such changes, we believe that many might be planted at the North, which are now confined to the grounds of our Southern neighbors.



A DISH EVERYBODY WOULD LIKE, AND EVERYBODY MIGHT HAVE.

We give an engraving of a sketch presented to us by Mrs. G. W. Huntsman of Flushing, (from her own pencil.) The amateur will recognize it as a very accurate drawing of the "British Queen," and we regret that the pleasure of looking at such a "mouth-watering" picture, is lessened by the fact that this variety of Strawberry has failed to be very productive in this country. But there are other varieties, elsewhere referred to, which will furnish an abundant yield of fruit as luscious and as desirable as the one here shown.

CHAPTERS ON STRAWBERRIES.

CHAPTER IV.

This month is, in the Middle States, the most suitable time to plant strawberries. And when, with but little labor, such delicious fruit can be obtained in abundance, few of our readers possessing gardens, who have not already attended to its culture, will, we think, delay any longer to add this to their other luxuries. Some complain of the trouble to keep strawberry beds from being run over with weeds and grass. With proper modes of culture, and a little care at the right time, this labor may be greatly reduced.

The first requisite, in order to obtain a plentiful supply of good fruit, is a thorough preparation of the ground. The strawberry needs abundance of moisture during the fruiting season. To meet this want, the ground should be trenched at least two feet deep, and well enriched with barn-yard manure. Concentrated fertilizers are not so suitable, as they do not effect that mechanical division of the soil, which is a condition of obtaining moisture in dry weather. Such a preparation is more reliable than a dependence upon artificial watering, which is seldom done in a manner to be of much benefit. When the ground will permit, the roots of the strawberry extend down, in search of food and moisture, to the depth of four feet. Almost any good garden soil will produce this fruit, if well prepared. If the soil is a tenacious clay, add plenty of coarse manure. On such soil, we have seen the best fruit raised by digging in simply wheat straw. If the soil is very light and sandy, add also ashes and a little lime—wood ashes are at all times acceptable to the strawberry. Either of the above soils may also be improved by mixing with the other.

Having selected and prepared the ground, the next requisite is to obtain plants of the right kind. For garden culture, of which we now treat, Hovey's Seedling and McAvoy's Superior are the most reliable. These kinds may be obtained of any respectable nurseryman, at a reasonable price. We would also recommend a few of Burr's New Pine, and Longworth's Prolific, when

it can be obtained with certainty as to its genuineness. The three first named are pistillate varieties, and will need a few staminate kinds mixed with them, or placed in beds not far distant. Longworth's will answer for this purpose, if it can be had. If not, use the Early Scarlet.

We will describe two modes of cultivation—the only ones which we have found entirely satisfactory.

First. Lay out the ground in beds four feet wide, with alleys between. Mark out rows across the bed, two feet apart, and have the plants one foot distant in the rows. Set the plants with a garden trowel or other convenient implement, pressing the earth firmly about the roots, and water immediately. If it is not desirable to plant a separate bed of some staminate variety, such as the Early Scarlet, or Longworth's, put a few of these in each bed—one to ten of the pistillate kinds will be enough—even a less number will answer. No further care will be necessary, except keeping the ground free of weeds, which may be done by occasionally running a garden rake between the rows, or by hoeing. If blossoms appear, *be careful to pinch them out*, for if the plants be allowed to bear fruit the first season, they will be too much weakened to bear well the next Summer. Be careful, also, to cut off, or pinch out the runners as they appear from time to time. Much will depend upon this being done, that the plants form large stools capable of bearing, next year, a pint or more of the finest fruit each. A bed thus managed will continue in bearing three years. If plants are required for making new beds either this Fall or next Spring, put out a few in rich ground, apart, for this purpose.

Second. In this mode, the ground may be divided into beds or not; but it is better to do so, as the fruit can be gathered without trampling down the plants. Set them at the distance of two and a half feet each way. Keep the ground clean by frequent hoeing or raking, until the plants acquire strength, and the seeds of weeds have germinated, when the runners may be allowed to take root and cover the ground. In the Autumn, thin out the plants with a small hoe, leaving them eight or ten inches apart. After one crop

has been obtained, the plants may be dug under, and a crop of something else raised on the ground. If the bed should be very free from weeds and grass, it may be retained for another crop; but usually, it will be better to make a new plantation every Spring, as the old bed is liable to become crowded with plants or weeds, or both, and the trouble of making a new one is very little. In no other way can an abundance of fine fruit be obtained at so little trouble as by this method, though it is not quite so neat and finished as the first one proposed.

FARMERS' GARDENS.

As a class, farm gardens fall far short of those found in villages, and in the suburbs of our cities. It probably will not pay for a farmer to lay out an acre or two of land in the highest style of the art of landscape gardening, and employ men educated to the business to keep it. But it will pay better than any other portion of his farm, to till one acre in the most thorough manner, to raise the fruits and vegetables he wants for his own family. It is a reproach to the class, as the feeders of the world, that their own families are often not half as well supplied with fine fruits and vegetables as the mechanics and laboring men in the village.

The standing excuse is, that they are dependent upon field crops for their profits, and these must have the first claim upon their attention, by which they mean that they have no time for the small business of planting beds and keeping them clear of weeds. They do not believe it pays to cultivate such vegetables as are common in all good village gardens. They have indeed a small patch called a garden, but it is more abundantly stocked with weeds than with anything else. It is so long neglected, both in planting and cultivating, that the weeds always have the start, and keep it through the season. The boys become thoroughly disgusted with it, and the term gardening is always associated in their minds with weeding the onion-bed and cutting up pig-weed and purslain among the beans and potatoes.

Some farmers, we rejoice to know, have turned over a new leaf, and for a few years have cultivated a good variety of vegetables, and find it both pleasant and profitable to associate with their salt junk, cabbages, parsnips, lettuce, peas, beans, onions, squashes, &c. This month is the time for all the remainder to commence thorough work in the garden. Manure thoroughly, and plow deep. Then look over the lists of some reliable seedsman, and select such varieties as you like, and plant them seasonably. A few dollars spent in this way will give you more satisfaction, and we think more *profit*, than any other investment in seeds upon the farm. Try it and see.

FORWARDING VEGETABLES.

Besides the Hot-bed treated of last month, hand-glasses, or even boxes, may be advantageously employed alone, though usually better in connection with hot-beds. Choose a warm and sheltered situation, in dry soil,

and dig a trench two feet deep, and of the same width; or if the heating material is easily obtained, three feet in width is still better. This may be of any desired length. Fill with good heating manure, the same as for hot-beds, raising it about one foot above the surrounding surface. Next add eight or ten inches of good rich mold for the plants to grow in. As soon as this covering is warmed by the material beneath, cabbages, cauliflowers, egg-plants, cucumbers, melons, &c., may be transplanted from the hot-bed, placing them the requisite distance apart for their future growth, and cover with hand-glasses provided for this purpose, shading them for a day or two. When the plants have commenced their growth, raise the glasses to admit the air, propping them up, and lowering again at night. As warm weather advances, they may be taken off during fine days to harden the plants, and about the latter end of May removed entirely.

Wooden boxes with a pane of glass for the upper surface will answer instead of regular hand-glasses, though not as good, as they do not admit light and warmth in all sides.

A ridge of the above kind may also be used to sow vegetables upon.

CAULIFLOWERS.

A good cauliflower is almost as rare a thing in the country, as a good pear. They are not to be found in one farmer's garden in a hundred; and yet with good seed, and land, they are almost as sure to head as a cabbage. The cauliflower is the most delicate and delicious of all the varieties of the *Brassica oleracea*, which in its native state is a small, open-leaved, cruciferous, yellow-flowered plant, found growing wild, near the cliffs, upon the sea shore of Britain.

It cannot be grown to perfection in the shade of trees, buildings, or fences. It wants the open ground, and plenty of sunlight, though it is more impatient of drought than most other vegetables. It delights in a rich, deep, well worked soil, through which the roots can penetrate easily in all directions. Besides the usual thorough manuring of the vegetable garden, it wants a liquid manure, while growing freely, in order to have the plant bring out its highest excellence. An ordinary sample may be had with common soil and cultivation, but as in the case of other garden products, the most thorough cultivation is found to be the most economical.

For the general summer crop plants are easily procured from the gardeners, where one has not the facilities of a hot-bed upon his own premises. After the soil has been well worked, and manured to the depth of eighteen inches, put out the plants two feet apart, and if the ground be at all dry, put a quart of water around each plant. This will settle the dirt around the roots, and should always be practiced, except when it rains. When the plants are well started, say two weeks after setting, it is of great service to dig over the ground deeply, be-

tween the rows. This furnishes fresh air and moisture to the roots, and makes them grow rapidly. When the heads are half grown, the outer leaves may be broken and turned over them, to obstruct the light, and to make the heads of more delicate flavor and color.

ABOUT TRENCHING.

This is a method of treating the soil, especially when designed for high cultivation, as in the garden, which we consider of very great value. It is simple and yet effective. We have seen very little written in this country upon the method of trenching, and we think but few understand the details. We, therefore, propose, at the risk of being a little tedious, to describe the process somewhat minutely. We write not for the experienced gardener, but for those who are just beginning.

It cannot be necessary to enter into long arguments to show that a soil well pulverized and manured two or three feet in depth, will produce a larger and far more certain yield than one only cultivated to the depth of five or six inches. A single illustration will perhaps help the conception.

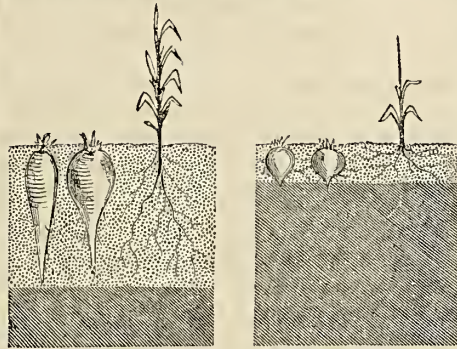


Fig. 1.

Fig. 2.

Some of the advantages of deep thorough tillage are being discussed in our articles on the "Mechanical Treatment of Soils." One of the most important of these is, the fact that deep culture guards against drouth as well as a wet season. The sun's parching is seldom felt more than a few inches below the surface. The plant growing upon No. 1, above, has roots always below such influence, and draws up moisture from beneath during the severest drouth, while that in No. 2 is stunted, if not wholly killed, by the absence of rain. The operation of breaking up and stirring the ground deeply, has received the technical name of

TRENCHING.

This word is usually applied to those methods of plowing or spading in which the soil is not only deeply stirred, but also inverted,—the lower soil brought to the surface. Deep plowing, where the furrow is turned, is called trenching, or trench-plowing, though trenching generally refers to operations with the spade or shovel, in the garden or on limited areas, in which the soil is moved more than one depth of the spade.

True Trenching implies digging the soil two, three, or four spades ("spits,") deep, and throwing the lower soil upon the surface, and the surface soil in the bottom of the trench.

Bastard Trenching signifies stirring the soil two or more spits deep without changing the relative position of the surface and subsoils.

The following figures will illustrate true trenching, or simply trenching, as it is usually termed:

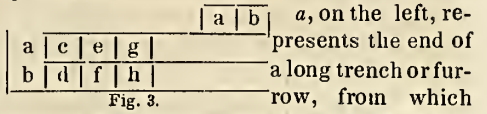


Fig. 3.

The soil has been removed one depth of the spade, and carried across the plot and placed upon the surface on the right. From *b* another spade's depth has been in like manner carried over.

The next operation is to take from *c* the width and depth of the spade, and put it in the place of the removed soil in *b*, thus:

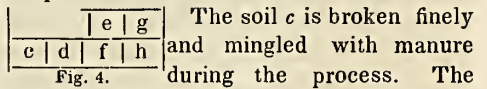


Fig. 4.

The soil *c* is broken finely and mingled with manure during the process. The next operation is to take out *d* and place it upon *c*, thus:

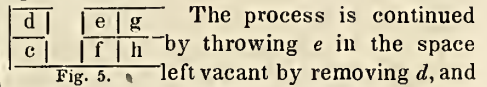


Fig. 5.

The process is continued by throwing *e* in the space left vacant by removing *d*, and throwing *f* upon it thus:

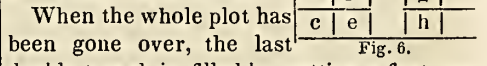


Fig. 6.

When the whole plot has been gone over, the last double trench is filled by putting *a* first carried over, into the bottom, and *b* upon it.

This process and the following are simple, easily performed by the unskillful laborer after a little instruction, and it is scarcely possible to speak in too high terms of the great utility of digging over a garden soil in this way. During the trenching more or less manure may be worked in, according to the richness of the soil.

To trench three or four spits or spade's deep, is just as simple as the above, and it is usually advisable to go three spits deep, especially in *bastard* trenching, described further on.

TRUE TRENCHING THREE SPITS DEEP.

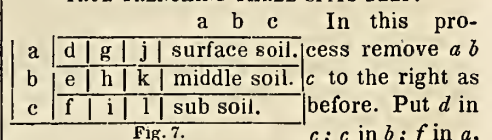


Fig. 7.

thus:

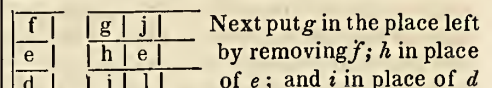


Fig. 8.

Next put *g* in the place left by removing *f*; *h* in place of *e*; and *i* in place of *d* and so on, mixing in the appropriate manures, and filling the last trench with *a b c* first taken out.

The above process is only applicable to good soils, of sufficient depth to allow bringing the lower soil upon the surface. But there are few soils as yet so deeply worked that it is safe to trust seeds and plants to the subsoils thus brought up. For the first year or two, especially when thorough under-drainage has not been performed, we advise

BASTARD TRENCHING.

This is performed as follows:

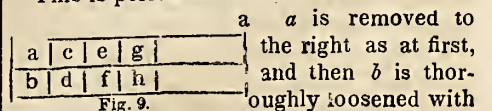


Fig. 9.

a is removed to the right as at first, and then *b* is thoroughly loosened with the spade and manures worked in to it.

c is then moved upon *b* thus:

<i>c</i>	<i>e</i>	<i>g</i>	
<i>b</i>	<i>d</i>	<i>f</i>	<i>h</i>

d is now loosened and manured, and *e* set upon it thus:

Fig. 11.

By thus continuing to move the upper soil along one or more widths of the spade at a time, the whole surface and subsoil are readily operated upon. Some begin by carrying to the opposite side of the plot a double portion thus:

<i>a</i>	<i>c</i>		
<i>e</i>	<i>g</i>		
<i>b</i>	<i>d</i>	<i>f</i>	<i>h</i>

In this case *e* is moved upon *b*; *g* upon *d*, and so on.

Fig. 12.

BASTARD TRENCHING, THREE SPITS DEEP.

This is, perhaps, the most generally applicable, and most useful of the different modes of trenching.

a d b

<i>a</i>	<i>d</i>	<i>g</i>	<i>j</i>	<i>m</i>
<i>b</i>	<i>e</i>	<i>h</i>	<i>k</i>	<i>n</i>
<i>c</i>	<i>f</i>	<i>i</i>	<i>l</i>	<i>o</i>

Begin by carrying *a*, *d*, *b*, to the right. Loosen *c* with the spade,

Fig. 13.

mixing in manure. Move *e* upon *c* thus:

<i>g</i>	<i>j</i>	
<i>e</i>	<i>h</i>	
<i>c</i>	<i>f</i>	<i>i</i>

remembering to thoroughly break up every portion of soil and manure as may be necessary. Next throw *g* upon *e* thus:

<i>g</i>	<i>j</i>	<i>m</i>		
<i>e</i>	<i>h</i>	<i>k</i>	<i>n</i>	
<i>c</i>	<i>f</i>	<i>i</i>	<i>l</i>	<i>o</i>

Continue the operation by loosening and manuring *f*, putting *h* over it, and *j* upon *h*.

Fig. 15.

until the whole plot is gone over, when the last trenches or furrows are to be filled with the portions *a d b* carried to the right at first. It will be seen that by this process the whole soil is thoroughly worked over and manured, without changing the relative position of the upper, lower and middle portions.

Two other methods may be pursued which are combinations of *true* and *bastard* trenching, and both of them often applicable.

First—Suppose that the soil is good for the depth of two spades. In figure 13, after loosening *c*, throw *g* upon it, in the place marked *b*; then throw *e* upon *g* in the place marked *a*. Then loosen *f*; put *j* in *e*, and *h* in *d*, and so on. By this plan the two upper portions change places, while the lower soil is loosened and manured, and is thus prepared for being brought to the surface by *true* trenching a year or two afterwards.

Second: The two lower portions may be made to change places without sinking the surface soil. This is shown by fig. 17:

<i>a</i>	<i>d</i>	<i>g</i>	<i>j</i>
<i>b</i>	<i>e</i>	<i>h</i>	<i>k</i>
<i>c</i>	<i>f</i>	<i>i</i>	<i>l</i>

Begin by carrying *a*, *b*, *c*, *d*, to the right. Transfer *e* to *c*. Put *f* over it in the place marked *b*. Move *g* to *a* over *f* in its new position thus

<i>g</i>	<i>j</i>	<i>m</i>	
<i>f</i>	<i>h</i>	<i>k</i>	<i>n</i>
<i>e</i>	<i>i</i>	<i>l</i>	<i>o</i>

Continue the operation by transferring *h* to the place of *f* that is between *e* and *i* in fig. 18. Put *i* over *h* and *j* over *i*, thus

Fig. 18.

<i>g</i>	<i>j</i>	<i>m</i>		
<i>f</i>	<i>i</i>	<i>k</i>	<i>k</i>	<i>n</i>
<i>e</i>	<i>h</i>	<i>l</i>	<i>l</i>	<i>o</i>

Other combinations than those given may be made. Bastard trenching is generally applicable, but the earth should be so moved as to bring to the surface every year, at least a little of the lower soil.

Fig. 19.

BEETS

Are among the first seeds to be planted in the open ground in the garden. This plant is a native of the South of Europe, and is now almost universally cultivated, either in the field or garden. It is highly esteemed, by most persons as a culinary vegetable though it is less nutritious and digestible than many others. It is very productive, and a few small beds will furnish an abundant supply for an ordinary family.

Those in most common use are the Early Turnip, Early long Blood and Extra dark Blood. There are several varieties of the Early Turnip, the Dark Blood, the Yellow and the Bassano, which is a very light red or scarlet and the best with which we are acquainted. A paper or two of Bassano beet seed should be put upon the memorandum for this month, if they are not already procured. They should be sown as soon as the frost is out of the ground, and sufficiently dry for working. It is a good plan to sow Radish seed in the drills with them, to mark the rows and to aid in their cultivation. The radishes will be out of the way before the beet roots begin to swell much, and their long tap roots are excellent to keep the soil loose. We make the drills fourteen inches apart, and about two inches deep. Where there is a market for the young plants for greens, the seed may be sown one inch apart in the drill and thinned out as they grow. If the young plants are not wanted for this purpose, it is better to sow them three inches apart, removing at least half of the plants before maturity.

THE EARLY LONG BLOOD has the preference among gardeners, and this is the kind most frequently met with in the market. They are smooth, and regular in shape, and as they grow above ground a good deal they are easily pulled, and from this circumstance are sometimes called the lazy man's beet. They are not equal in flavor to the turnip rooted varieties, but are much more productive. They mature a little later.

THE EXTRA DARK BLOOD is a still later variety. It is much darker in color, and is the kind usually selected for winter and spring use. If larger roots are preferred they should be sown farther apart, both in the row, and in the drill. Two and three feet a part are desirable for the largest roots. Medium sized roots are preferable for the market. The three kinds we have named are the principal varieties cultivated for this market. Those intended for Winter use should be sown about the first of June and later, as they will be more tender, and keep better than those sown in the first part of the season. Those designed for Winter use should be taken up before frost, the tops should be kept at as low a temperature as is possible without freezing.

This vegetable having a tap root, requires a deep and thorough disintegration of the soil. We usually trench every Spring at least two feet deep, working in a half cord of stable manure to a square rod of ground, taking the manure fresh from the barn cellar where it is in a fermenting state. This raises the temperature of the beds, and

brings up the seed quicker. Some plant the seed in hills. They make a hole with a dibble about ten inches or a foot deep, and fill it two thirds full of horse manure. The remainder is filled in with soil and the seed planted as usual. This is a slow process, but it brings beets very early. The seed germinates more surely if it is soaked a day in warm water before planting.

PARSNEPS

Have given to our language that excellent proverb "Smooth words butter no parsneps," which illustrates the value of flattery, as well as furnishes a hint for the right mode of cooking. The parsnep is of slower growth, than most other roots, and demands the whole season. They should be sown as soon as the ground can be worked in the Spring. Some even sow them in the Fall, with advantage.

The Sugar or Hollow crown, and the large Dutch or Guernsey are the kinds in general cultivation. The first are better for table use, the latter for field culture, to be used for feeding to cattle. Seeds of the first variety have been distributed from the Patent Office, for a few years past, and those which we have tested in our garden, have given roots of excellent size and quality.

The soil best adapted to this root is a deep rich sandy loam, but it may be grown in almost any ground with sufficient draining and disintegration. We usually select the deepest and richest part of the garden, where the long tap roots can have free play.

It is a common error to plant this thin scale seed too deep. A half inch is quite deep enough, and half that depth if we could have moisture enough would be better still. We usually sow with a brush seed sower, putting in with the seed fine ground unburned bones. This gives the seed an early start, and when the plants are well up, we thin them out to six inches in the drill. The drills are fourteen inches apart. They may be sown any time before the first of May, but the earlier they are in the ground the better.

The parsnep deserves a much higher place than it holds in this country as an article of food. It is highly nutritious, sweet, and palatable when properly cooked. A parsnep stew prepared with skill is a dish for an epicure. But few farmers' families use them enough to acquire a taste for them, and the only months in which they break in upon the everlasting monotony of salt junk and potatoes, are March and April, when they are first dug. But they are as easily kept in the cellar, during the Winter, as any other root, and ought to be laid in in November as a part of the winter stores. They help make a variety and are highly relished, when one has acquired a taste for them.

Cattle are fond of them, and they are profitable feed, both for making flesh and for milk. When cooked and mixed with meal, they make a very good diet for store pigs. This root should be cultivated extensively by our farmers as a field crop, for feeding cattle in the Winter and Spring. It

is a cheaper food than exclusive hay diet, and cattle thrive much better upon it. It is not liable to the objection usually brought against turnips, for it gives no peculiar taste to the milk, and does not injure it for butter making.

To raise Seed, set out a dozen of the best roots you can procure, the last of this month. Put them in a sheltered place, in good soil, and gather the seed when fully ripe. It is easily scattered by the winds, and if not gathered at maturity it will be lost. Seed more than one year old should seldom be used. It is so thin that it soon loses its vitality.

LETTUCE.

The name of this vegetable is from the Latin word *lac*, (milk,) so called from the whitish juice which exudes from the stem and leaves when broken or cut. This juice, when separated, is called lactucarum, and has slightly narcotic properties, like opium, for which it is sometimes used in cases where opium is inadmissible.

The most common use is as a salad in Spring, for which it is unrivaled. It is universally regarded as a healthful vegetable, and is highly relished by persons accustomed to its use. It was introduced into England about 1562, since which time it has held a prominent place in the kitchen garden. There are two varieties, each of which has a large number of sub-divisions. The cabbage lettuce was introduced from Egypt, and its varieties have principally originated in Europe, under the treatment of skillful gardeners. The upright sorts are from Cos, and take the name of the island whence they were introduced. They are characterized by an erect growth, and do not readily form heads without artificial aid. The cabbage varieties grow close to the ground, and produce a blanched heart, in the form of a cabbage, without any assistance.

When young they are in general sweeter than Cos varieties, at the same age. They are grown at all seasons, the Cos are more particularly for Summer use.

VARIETIES.

Many of the European sorts are not adapted to our dry, hot Summers. The following are recommended by experienced gardeners, and when propagated from reliable seed, will give satisfaction. Cabbage varieties: Brown Dutch, Early and Royal Cabbage, Drumhead, Victoria and Large Indian. Cos Varieties: White Cos, Brown or Bath Cos, Paris and Green Cos. These are not so popular with us as in Europe. They should have their leaves drawn together a week or two before they are cut and tied with a strip of matting.

CULTURE.

This vegetable delights in a deep rich loam, not too moist. It does better in thoroughly decomposed manure, than in fresh applications. We have found it to succeed admirably in reclaimed marsh land, where it has been thoroughly underdrained. Though a small plant, it sends its roots deep into the earth, and a multitude of them. Whatever spot is taken for this crop, should

be thoroughly trenched and manured. A small bed will supply a family very abundantly. Make the top soil very fine with the garden rake, and sow in drills nine inches apart, as soon as the ground is open in the Spring. The Early Cabbage, Drumhead, and Indian are good varieties for the first sowing.

Sow again, for a succession, the last of April, and at intervals through the season. We have found it a good practice to put a few seeds about the edges of other beds of garden vegetables, as finer heads are produced by a plenty of room.

This plant survives the Winter with a little protection, and market gardeners are accustomed to prepare plants for their earliest crops by sowing the previous Fall, and keeping the plants in close boxes during the Winter, very much like early York Cabbages. The Brown Dutch is a good variety for this treatment.

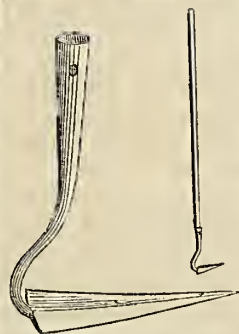
SEED.

The varieties that head best should be selected for seed, and should be kept at a distance from all other varieties while in bloom. The seed from those that run up will not give good heads.

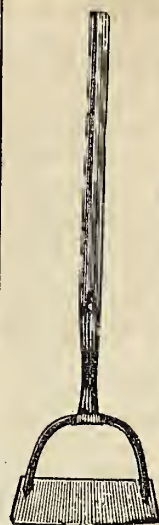
CONVENIENT IMPLEMENTS.

We intend to devote a column, now and then, to describing and illustrating some of the most convenient implements which have not as yet come into general use. We begin with these

four simple ones, and give plain details, as we write, not for those who have used and are familiar with the implements named. We have found no single implement more useful, both in the garden and field, than the one here shown, called the *weeding hoe*. It is also styled the onion hoe, the bayoant hoe, &c. Our cut shows the metal part in the larger figure, and the same implement with the handle, in the smaller figure. In the latter form, with the handle, the usual retail price is 50 cents. The steel blade is about 6 inches in length, 1 1/2 inches wide at the end next the handle, and runs to a point, with sharp edges. By turning the *side* to the soil, it cuts as wide as the common hoe, and may be drawn through the surface soil to loosen it without moving the earth along. With the point downward, the ground may be loosened the full depth of the blade. In this way it may be used for opening drills for seed. It is always very advantageous to loosen the soil deeply below where seed is to be placed. The point can be turned to the right or left, and worked in among corn, potatoes, and among the smaller plants in the garden. We have more recently used this for nearly all kinds of hoeing and weeding, and have saved with it many a backache, to say nothing of sore fingers resulting from pulling weeds, where only the broad common hoe was resorted to. We would not like to be without one, if the cost were much greater. We do not know that it is patented, and it is, or should be, on sale wherever any kinds of implements are kept.



Weeding Hoe.



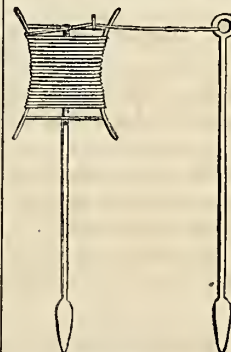
Scuffle or Push Hoe.

blade. It is also very useful for working upon gravel walks.

The advantages of a *Garden Trowel* are too little known, as not one farmer in a hundred has one. This is similar to the common mortar trowel, but the blade is curved upon the sides into the shape of a trough with open ends. Its chief use is in making holes for and taking up young plants, without disturbing the soil around the roots. Cabbage plants, beets, cucumber plants, in short, all kinds of young plants in the garden may be safely transplanted, by using this implement. So, also, field corn, turnips, &c., may all be moved from thick planted to thin or vacant spots with ease and safety. This may be done in dry weather, by first wetting the portion of soil to be moved. By striking the trowel down two or three times, a circular hole may be made, and by a similar operation around the plant, a mass of earth enclosing the roots can be taken up of just the form to fit the prepared cavity. Moved in this way, few young plants will suffer by change of place. The retail price varies from 25 cents to \$1, according to size and quality.



Garden Trowel.



Garden Reel.

Where a line is used for laying out a garden plot into beds and walks, &c., a *Garden Reel* is quite a convenience. They are sold ready made of iron for about 50 cents to \$1 each. Any one, however, can construct one for himself. A frame, for winding the line upon, may be made of wood, like the iron one shown in the cut, or a two-inch board, say ten inches long and eight inches wide, may be taken and hollowed upon the sides for a spool. Through the centre bore an inch hole for the upright supporting stake. Into each upper corner, put a peg projecting upward an inch or so, so that the cord may be crossed between them to prevent further unwinding at any desired point. A sharpened, hard wood stake, may be tied to the end of the cord, and set up at any required distance, as shown in the cut. When not in use, the apparatus may be packed away easily. A boy with a hatchet and augur could quickly get up such an implement. Those who are procuring a complete set of garden implements, or who have much use for a line, will of course get the iron reel. A light reel or spool is convenient for keeping clothes lines upon.

THE FARM FRUIT GARDEN.

Now is the time to mature plans for improvements and additions to the farm; the moment for action will soon be at hand. Among other improvements we must urge the many claims of a fruit garden. Most farmers have a supply of fruit of some kind; but the choice varieties of small fruits are seldom seen, even on the best farms. Farmers deserve, and should have the best of everything. We advise that a plot of ground be set apart exclusively for a fruit garden, on which should be grown the best varieties of Strawberries, Raspberries, Blackberries, Currants, Gooseberries, Grapes, Dwarf Pears, &c. The soil *should* be deeply trenched, heavily manured, and thoroughly drained. Divide it into beds and borders, and edge them with box, if a neat appearance is wished for; and a neat fence is of course desirable, as well for looks as to protect it from the depredations of animals. The fruit and vegetable garden may be within the same inclosure; and if, for want of ground, or other reasons, a separate plot cannot be allotted to the fruit garden, the borders of the vegetable garden may be used for this purpose. In planting, make the holes sufficiently large to admit of spreading the roots in their natural position. Prepare the holes before opening the package of trees or plants, and then let the planting be done as speedily as is consistent with doing the work well. Nearly as many trees are lost from exposing the roots to the drying influence of the air, as from careless planting. Some old manure may be placed in the bottom of the holes, thoroughly incorporating it with the soil.

We give the names of a few of the best kinds of fruit for a garden like this, not advising too great a variety of each:

Strawberries—Hovey's Seedling, Longworth's Prolific, Burr's New Pine and McAvoy's Superior.

Raspberries—Fastloff, Antwerp, Franconia, and Brinckle's Orange.

Currants—Red Dutch, White Dutch, Cherry, Prince Albert, and Long-bunched Red.

Gooseberries—Houghton's Seedling, White-smith, Crown Bob, Early White, &c.; and of the black, Bang-up and Black Naples.

Blackberries—New Rochelle, and Boston High Bush. The Thornless (so called) promises well.

Grapes—Isabella, Catawba, Diana and Concord.

Dwarf Pears—Duchesse d'Angouleme, Dearborn's Seedling, Seckel, Sheldon, Lawrence, Vicar of Winkfield and Glout Morceau.

Good fruit is something more than a mere luxury; it is highly nutritious and conducive to health. Every family should be well supplied with it; and children be allowed to eat of it freely *when ripe*. Too much cannot be said in its praise, and we question whether the nectar of the Olympian gods was as delicious as our choicest Pears.

Vain-glory blossoms, but never bears.



THE DWARF PEAR.

SICKLY PEAR TREES.

That the pear is naturally a long lived tree no one can doubt, who has seen the Endicott or the Stuyvesant trees, which go back, by authentic record, at least two hundred years, to the time of their planting. Old trees of seedling varieties are not uncommon, in all the older parts of the country, showing quite as much or more vigor than apple trees of the same age. Why is it, then, that so many of our newly planted trees die the first season, and so many more linger but a few years and perish by the blight? Unquestionably, the dwarfing of the pear upon quince stocks, and perhaps the production of new varieties from seedlings in high garden culture, affects the hardiness of the constitution of the tree. Certain it is, that nearly all the fine varieties are less hardy than the seedlings, and need more attention, in order to mature their fruits. They are far more susceptible to injury, from heat and cold. Downing recommends the protection of the trunks by means of straw, the year round, as a safe-guard against disease. He experimented for four years with this kind of sheathing, and was satisfied with it. Among three dozen pear trees, just come into bearing at the time he published his opinion, one third of them had been kept in straw, and not a single one of that dozen had suffered by blight or other disease, while of the other two dozen nearly one half had dropped off, and been consigned to the brush heap.

This is a very simple remedy, and one that every fruit grower can try with very little expense or labor. If we can raise these fine fruits by tying a bundle of straw around the trunks, in addition to our other cultivation, by all means let us give them that dressing. Both straw and matting are cheap and plenty.

The fame which follows true greatness, no friend need hold up, and no enemy can keep down.

PLANTING SHRUBBERY.

Planting shrubbery does not consist simply in setting out a lilac-bush on one side of the door-step, and a rose-bush on the other. This, indeed, is a good beginning; but with many, it is the beginning and end of their operations. Shrubs may be made to play an important part in all attempts at landscape-gardening on a large scale, and they may be used to embellish the "door-yard" of the humblest home. Indeed, it seems to us that if none of the old, familiar shrubs are planted about a house, that house is sadly wanting in home-like expression.

In laying out ornamental grounds, it is quite customary to surround the whole with a belt of trees. This is an excellent practice, because such trees afford protection from the winds of Winter, and give the place an air of privacy and peaceful seclusion. But something is wanted beside trees in the formation of such a belt. We want shrubs to conceal the fences, which are seldom ornamental objects, and which continually remind the spectator how limited is the pleasant scene he is beholding. When planted for this purpose, they should not be set in stiff, monotonous rows, like a hedge, but should form an irregular, waving line, as much as possible like a natural scene. The highest should be planted near the fence, and the lowest in front. Here and there, a small evergreen tree, such as the hemlock or red cedar, may be set among them for variety.

Shrubs produce the finest effect when set in groups on a lawn, or by the side of walks. And here there is room for the exercise of judgment and taste. Those of most robust habit, or the spiry-topped, should stand in the centre. Next to these should stand those of smaller growth, and next should come those still smaller, until the last rise only a few inches above the turf. The planter should ascertain beforehand the size to which they will ultimately attain, and then plant them so as not to encroach upon each other. There is a great deal of difference between a tangled thicket and a well-arranged group of shrubs.

Another mode of treating shrubbery is to group the plants with reference to their various shades and colors. In addition to the numerous shades of green, there are other positive colors, such as purple (as seen in the purple-leaved barberry, filbert and euonymus), grey (as seen in the Buffalo-berry, Missouri Silver Tree, and Bohemian Olive). There are also variegated-leaved shrubs (as the variegated barberry, dogwood, syringa and currant); some, also, with striped, vined, blotched and downy foliage, all of which may be so arranged as to produce a striking effect. In the hands of a novice, however, these shrubs are somewhat dangerous: he may employ them to make a scene more striking than tasteful. Like the modern weeping-trees, they should not be obtruded on the sight too often, but introduced here and there to break up monotony and to lighten the general effect. Properly used, they will appear, at a little distance

like a finely-tinted painting, and abundantly compensate for any lack of flowers.

And this suggests the remark that in the selection of shrubs, regard should be had to the beauty of their foliage rather than of their flowers. Their flowers last, at the longest, only a week or two, while their foliage is the delight of a whole Summer. It is important, also, to choose those whose leaves expand early in Spring, and remain green and fresh late in Autumn. The twigs of some shrubs have bright-colored bark, and are a pleasing sight in Winter when grouped together. Among these we now recall the white bark of the Tartarian (bush) honeysuckle, the green of the Corchorus and Magnolia Glauca, the grey of the Missouri Silver-tree, and the crimson of the Cornus Sanguinea.

Shrubs are sometimes planted singly upon the lawn. In such situations, they develop their branches freely on every side, and attain their highest individual beauty. When so planted, the most rare, beautiful and symmetrical kinds should be chosen. In laying out small grounds, an appearance of greater extent may be produced by using shrubs and small trees. These may be arranged on the same principles that large trees are disposed in extensive places. Belts, groups, single specimens, evergreens or deciduous trees, all may be planted with as much scientific skill as though the premises were measured by acres instead of rods. We have seen this tried in a neighbor's grounds, and with so good results, that we heartily recommend it.

In improving grounds, large or small, it is often desirable to screen the view of one part from another. In very large, park-like places, this may be done by planting masses of full sized trees. But in places of ordinary extent, it is not expedient to waste so much ground as such trees would cover. Here, shrubs and small trees do excellent service. By setting them in waving lines and scattered groups, cutting off views in advance, concealing walks from each other, and so creating intricacy and variety, some of the finest effects of landscape-gardening will be realized. As an illustration of this point, we refer to the grounds of the late A. J. Downing, at Newburgh. As planted by him, they presented several distinct scenes. One opened upon the spectator soon after entering the gate. Proceeding along the walk, he came to another directly in front of the house. This was a most beautiful lawn, encircled and embellished with rare trees and shrubs; and it was so secluded from the other portions of the premises, that the stranger supposed it to be the whole of the cultivated grounds. But pursuing the course of the walk a short distance, through a labyrinth of shrubbery, another lawn revealed itself, nearly as large and beautiful as the first! This, again, was screened from other portions of the grounds by groups of small trees and shrubbery. This place contained only a few acres, but by this simple management was made to appear much larger.

Compliments are only prismatic bubbles, blown with the aid of "soft soap."



FLOWERS FOR FARMERS.

We have frequently had occasion to say a word to farmers on the subject of flowers. Spring-time is upon us, the time of birds and flowers, and soon the air will be filled with fragrance and melody. What time more appropriate to make another appeal to our farmer friends especially, to gather around the homestead a few choice flowers? Some are deterred because they consider it expensive, but many more for reasons of a very different kind. Trouble and expense need be no excuse, for you can begin in a small way, and mostly avoid both. If you cannot spare the time and means to make and furnish a lawn, or form a garden proper, at least set aside a small border for flowering shrubs and plants, which will form the nucleus for more extended operations. Let your wife and children feel that there is one part of the farm that they can in some sense call their own, and they will doubtless relieve you of all trouble, save the mere spading of the ground. The general care of a flower border is peculiarly suited to their habits and tastes, and they will take delight in it, and be much benefitted by the healthful exercise. But it is your duty to furnish them with the material, and in this particular we can probably assist you. First of all, the ground must be deeply trenched and well manured, to make it suitable for the healthy and vigorous growth of plants. Next send to some good nurseryman and get a collection of flowering shrubs and vines, such as the following: Spiræas, Deutzias, Hardy Azaleas, Altheas, Syringas, Viburnums, Loniceras (Honeysuckles), Calycanthus Floridus (scented shrub), Amygdalus Pumila (double flowering Almond), Pyrus Japonica (Japan Quince), Pæonia Moutan (tree Peony), Forsythia Viridissima, Euonymus, Weigelea Rosea, Wistaria Sinensis (Chinese Wistaria), Philadelphia Coronarius (fragrant Syringo), &c., not forgetting a choice collection of bush and climbing roses. Of herbaceous plants, Phloxes, Spiræas, Aquilegias (Columbine), Campanulas (bell flowers), Delphiniums (Larkspur), Chrysanthemums (Artemisias), Lychnis, Lupinus, Dianthus (pinks), &c., Pæonias, Dielytra Spectabilis, &c., are indispensable. For bedding plants, Verbenas, Petunias, Scarlet Geraniums, Cupheas, Heliotropes, Nierembergias, &c., are the best. These last are tender, and require to be taken in the house during the Winter. They may all be propagated by cuttings in the Fall, or the old plants, after being cut in, may be lifted, potted, and placed in the sitting-room near the

window, where many of them will flower during the Winter.

In addition to the above, sow the seed of some choice annuals, such as Alyssum Maritimum (Sweet Alyssum), Reseda Odorata (Mignonette), Phlox Drummondii, Dianthus Chinensis, Clarkia, Portulaca, Zinnia, Balsams, &c., and you will have a collection of plants which, with comparatively small labor, will make your border gay with flowers from Spring till Autumn. The border prepared, and the plants put in, the only labor will be transplanting some of the annuals, stirring the ground occasionally, and keeping it free from weeds. The best way to keep clear of the latter is never to let them grow; cut them down when young and tender, if you would master them, and not have them master you.

We have thus suggested a cheap and simple plan of adding to the homestead some of the loveliest objects that can adorn even a palace. Now, we expect to hear you say, "Well, to be sure, that's all very nice." But that is not enough; we want you to *do* something nice. If we were your wife, we know what we would do. We rather think that flower border would be made.

GRAPE CULTURE—NO. IV.

BY WILLIAM CHORLTON.

Comparatively speaking, the grape grower will now begin to have busy work. The various successions of the exotics are more or less in activity, from the swelling bud to nearly full-sized grapes, and the natives are beginning to develop, which renders it necessary that we should be on the alert, and see that no former advice has been neglected.

VINEYARD AND OUT-DOOR CULTURE.

In this department, when the buds are burst so far as to show which are likely to be the most suitable shoots for training in the right places, or to be left for fruiting, go over the whole and rub off all that are not wanted, or which, if left, would produce superfluous growth. This operation requires some study as the work proceeds. A reference to the illustrations in former articles will explain what is here meant, and the mind will readily perceive which buds ought to be taken out and which left to grow. I wish most particularly to impress the importance of this dis-budding upon all who desire either profit, or grapes of the best quality. It will also save much after-labor in the way of Summer pruning, and be of advantage to the vines and fruit by more fully exposing the leaves to air and light. The branches are less crowded, and the carbonic acid more thoroughly decomposed, thus forming a larger amount of saccharine matter in the fruit, and better ripened and firmer wood for the next year.

COLD GRAPERY.

The vines in this house may now be uncovered, even in the coldest localities. Examine them to see if any injury has been done by the extreme cold of the past Winter, which will show itself in the form of longitudinal slits, or openings along the canes, especially near the upper extremities. These will, in a short time, become dark-colored on the edges, and begin to "bleed," and without great caution the whole, or a large portion of the cane, will die off. The best thing in such cases is to tie the stem to the roof-wires at once, and keep a lower temperature for a week or two. If, notwithstanding this, the buds do not burst, and the sap still continues to ooze out, do not cut

down immediately, but wait until a healthy and vigorous shoot near the lower end has grown some eighteen inches, when the whole upper head may be cut away, and the young branch trained up in its stead. This mischief is the result of imperfectly ripened wood, and insufficient covering during the Winter, a fact of which some persons have been rather expensively convinced during the last two severe seasons, and which has furnished prejudice, neglect, and bad management, a subterfuge to condemn the practice of growing the European grapes under glass, without artificial heat. When no injury has occurred, the vines may be loosely tied to the wires, with the top left suspended in an arched position, until all the buds are well and evenly grown some two or three inches, after which the canes should be fastened in their permanent form for the Summer. Do not let any drafts of air into the house, but lower the temperature as may be desired by opening the top ventilators. Keep the house cool during the first three weeks on account of the liability of frosty nights. Let the thermometer, up to the end of this time, rise no higher than 65°, if possible. At the end of the month it may be allowed to rise to 70°, or 75° and 80°, and now commence using water freely with the syringe or hose-pipe, evenings and mornings, distributing it over every part of the vines, and into all crevices of the wood-work, for the double purpose of moistening the atmosphere, and dislodging any insects that have taken refuge there.

FORCING HOUSE.

The earliest crop will now be swelling fast, and in some cases thinning will be finished. If not done, commence when the berries are as large as peas. This thinning is the cutting out with "grape scissors" of all superfluous berries, and requires to be carefully performed, as the object is to leave enough in the bunch to fill up close, and yet not be crowded. Before commencing, tie out the upper and larger shoulders horizontally with strings of bass or twine, about the texture of darning thread; and raise the lesser ones by inserting small flat strips of wood in and between them. Begin to cut at the bottom and proceed upwards to the top, having an eye to a handsome shaped outline of the whole. The heat may now be increased to 65° or 70° at night, and 85° to 90° at mid-day. Syringe overhead during the evening, but *be very careful* that the water is not thrown with force against the fruit, as the skin is very soon injured and becomes "rusty." For the same reason the berries ought not to be rubbed or handled while being thinned. Continue to nip out the upper advancing growth of the lateral shoots to one leaf above where last stopped, and remove all the lower side shoots on each fruit spur, excepting the two uppermost, which are left for the purpose of drawing the sap, and preventing the base buds from bursting.

The kind of mildew which is sometimes so troublesome during July and August, to late crops, seldom shows itself in an early house of grapes. But there is another sort, which appears as a delicate white mold on the surface of the berries, and on the upper side of the leaves, and this is more prevalent in the forcing house than the cold graperie. It is most to be apprehended after a dry and heated atmosphere has been maintained for sometime, as for instance, immediately after "blooming time." This disease may be thoroughly destroyed by syringing the vines with water, in which has been mixed some flour sulphur, say one pound to ten gallons. While using, keep the sulphur well stirred, for it is upon the contact of this and the fumes given off by slow combustion, that the remedy depends.

The same directions that were given last month for the earliest house, will now be applicable to the second early, and need not be repeated.

THE RETARDING HOUSE.

Most persons who wish to retard a crop of grapes, will have other houses for earlier fruit, and one may be devoted to this purpose. It is not, however, every kind of structure that will answer. We want to prevent an early growth as much as possible, and there must be a heating apparatus of some kind for keeping out the frost during the Winter, before the crops are fully matured or gathered. A double span may, with some modification, answer, but a Curve-line, or plane Lean-to, with a western aspect, is the most efficient, and in fact the only one to be recommended. Where there is already this convenience, the object for the present will be to keep the temperature as low as possible. Let all the doors and ventilators be open until the buds begin to swell, and even during the whole month when there is no danger of frost; when so, the house may be closed at night, and opened again early in the morning. A less amount of moisture is required for this than for other crops, as the object is to prevent the vines from getting into brisk action, and the natural atmosphere is sufficiently damp for the present. In making preparation for a house of this kind, it is best to have the bed or border for the roots to grow in, nearly or quite raised above the ground level, which, from its drier capacity, will assist the vines more fully to centralize their juices, and somewhat prevent the accumulation of too much crude fluid and un-ripened growth in the Fall.

NOTICES TO CORRESPONDENTS AND GLEANINGS.

(Our table groans under an accumulating mass of favors from correspondents. These shall receive the earliest attention which our time and space will possibly admit of. We must in the mean time beg their kind indulgence and a pardon for any seeming but not real neglect. We have not yet been able to lengthen the day beyond 24 hours, nor the month beyond the days set down in the Almanac.)

One acre of Grapes.—Mrs. McKay, of Naples, N. Y., writes. . . . I would say, however, that the "one acre" of which so much has been said, has yielded in the last five years 26,000 pounds of good marketable grapes which have been sold for \$3,700. While it was considered an evidence of insanity by all our neighbors, that my husband thought to raise grapes and get six cents a pound for them, we have never sold at less than *ten*, and can now engage beforehand all we can raise, at eighteen cents per pound to be taken here.

Mr. McKay (who is unfortunately out of health), will be recognized by some of our readers as the contributor to the *Opal* over the signature of "Ned Saunders."

Sorrel.—Mr. M. says he kills sorrel by using stable manure and would like to know if there is anything better. If the soil be kept free from *under* water, be well worked deeply, and kept in good condition by stable manure, and then well cropped, sorrel will disappear. It is a 'barbarous' plant that retires before 'civilized' cultivation. It is a well behaved plant, however, and only comes into vacant places left by the absence of crops which need a generous soil and proper tillage.

Setting and Grafting Young Trees.—To P. T. W., of Shelburne, Mass. We advise not to graft the young apple trees set out this Spring. They will be less likely to do well. Let them have one year to get established, and then graft.

The Past Winter.—Our Waterloo correspondent writes March 13th, "December and January were the coldest corresponding months we have had here since the settlement of the country, yet the continued February thaw caused the grass to grow in favorable situations, and the Wheat looked well as the snow left it. But March came in with a N. E. snow storm, the mercury fell in the next night to five above 0, but the snow now covered and saved the Wheat from freezing out. While the mercury has fallen to 30° and 40° below zero in our latitude this Winter both East and West, only once here did it fall to 24° below, and then only for a few hours in the morning of the 16th January. Buds and vines are safe.

Gypsum.—Mr. Isaac Goodsell, of Woodbridge, Ct., writes, "In your last issue you speak of Gypsum (plaster) as a failure. For more than half a century I have not known a failure where it has been applied in conjunction

with ashes which argues with Liebig's theory on any dry soil where Felspar is a component, plaster will always tell."

We by no means would speak of Gypsum as a general failure, but quite the contrary. We advise a trial on all soils moderately dry where ground gypsum can be obtained under \$10 a ton. It is specially adapted to wheat, clover and other grasses, and may be sown broad-cast or applied in the drill.

"Flour Corn."—Offered free to subscribers by a subscriber.

Mr. E. F. Bartholomew, of Elmwood, Peoria County, Ill., writes, "I have a kind of corn which I call 'Flour Corn' that grinds and bolts as well as wheat, and makes as nice flour. This when baked very much resembles wheat bread. It is sweet and tastes more like rice than anything else I can compare it to. It yields well, is *very late*, and excels all other kinds I have tried for drying while green. Two years ago I obtained one ear and am now able to furnish my neighbors with a little for seed. I have now about half a bushel which I will distribute free among my fellow subscribers to the Agriculturist in the same manner that the Editor is furnishing seed. Any one wishing a few kernels will direct to my address."

We have no more specific description than what is given above, and cannot decide as to the kind or value. It has two characters of the "Wyandott," viz., lateness and whiteness of meal. As it is offered *free* an experiment with it will cost but little. We like this method of free interchange of seeds among the large and widely scattered "Agriculturist family." We have to ask that when an offer of seed is thus made, ready directed post-paid envelopes should be always sent, and that they be invariably forwarded to the person offering the seed *and not us*. A large number have sent to this office for seeds recently offered by individuals living at a distance. To such we could not of course reply, otherwise than by enclosing a package of our own seeds.

Osier Willows.—To L. M., Mass. We do not like to say how much you have been "humbugged," as we understand neither your soil, nor your circumstances. This willow business has been "run into the ground" by certain interested parties during a few years past—if it had gone in far enough to have stayed there it *would* have been better for some parties we could name. We do not desire to discourage any experimental trials of willow growing, but so far as we are informed, five out of six of those who have gone into willows during five or ten years past, have come out at the small end of the horn."

Wyandott Corn.—We ask as a favor, that no more of our readers will send to us for specimens of this corn. We have not a very high opinion of it (see page 344 of last volume) and have had none for distribution save a little left at our office as a specimen, and this was all gone, weeks ago.

Sugar Cane Growing in New-Hampshire.—Mr. Abel Blake, of Keene, N. H., writes, "I put two of the sugar cane seeds you sent me in to the earth just to test them, and now (March 2nd) blades are an inch high, and growing finely." Please send us down a specimen of the first sugar you make *this* Spring, Mr. Blake, and oblige, Yours Truly.

A Clergyman's Garden.—A younger brother, recently settled as pastor on an Illinois prairie, writes incidentally. From my half acre broken up for the first time and with no manure I raised last summer, 30 bushels of potatoes, 60 cabbages, 1½ bushels of beans, 2 bushels of beets, 1 bushel of tomatoes, 1600 cabbage plants (1500 distributed among my parishioners), ¼ bushel of onions, &c. Whole expenses \$3.50. Shall at least double the product the coming season, D. V.

Spaying Cows.—Frank G. Ruffin Esq., Editor of the Southern Planter, Richmond, Va., referring to the article in our last on this subject, writes us, "This is very extensively practised in Virginia. I have had many a one spayed, and bought others from our transmontane drovers, to fatten for market where they always rank the highest, other things being equal." We shall be glad to hear from many others on this topic which though frequently discussed in times past is still a matter of a good deal of interest.

Mildew on Gooseberries.—J. S., of Alquina, Ind. This is best prevented by choosing a moist, rather than dry sandy soil and planting as described on another page, covering the earth about the roots with a mulch or coat of tan or saw dust, or what would be still better, salt hay, or sea weeds is recommended, and an occasional sprinkling of the plant's with washing suds will be of service both as a fertilizer and preventive of mildew. Sulphur in moderate quantities sprinkled over the bushes when pushing into leaf, is beneficial in checking the disease. The Houghton's Seedling, a prolific but rather small American seedling, has thus far been exempt from mildew.

Liquorice Roots.—J. S., also inquires where the Liquorice roots can be obtained. We can not recommend its culture very extensively. A grower's unsuccessful experience was detailed in our last volume at page 149,

April No. We have no spare copy or we would send one. If any one wishes to make a trial, however, the roots can be obtained we believe of J. M. Thorburn & Co., N. Y.

Onions and Tobacco.—J. D. Blacken, of Suffolk County, and S. B. Stowell, of Tioga, will find the information they desire on pages 57 and 54, of this volume.

How to make the mane of a Horse Grow.

A Jersey subscriber wants light in this matter. This is a new case in our medical practice. We never yet saw a horse, in good growing condition, whose mane did not keep up. If he has an animal, whose tail and other hair grows, while his mane stands still, he must be a nondescript. It will be a better speculation to sell said horse to Barnum, or his successors, than to attempt to nurse his mane into luxuriance. We should want more light on the case, before we attempted to shed light on the cure. On general principles we should say, make the horse grow by generous feed, plenty of good English hay and oats, and then if the mane don't start, sell him as a queer sample of horse flesh.

A Word of Commendation.—G. Thompson, of Fulton, writes us in eulogy of our journal in terms which our modesty forbids us to quote. We are obliged to him for his appreciation of our labors, and for his kind wishes. Will a multitude of other correspondents please accept this as a response to them all?

Baked Corn Pudding.—"Edith" sends us the following recipe:—Scald three pints milk, into which stir smoothly 2 cups corn meal, and 1 cup chopped suet, or ½ cup butter. When cooled, add a well-rounded cup of good sugar, 2 beaten eggs, 2 teaspoonsful of cinnamon, 1 of salt, and a pint of milk, mixed with 3 tablespoonsful of flour. Add a cup of raisins, and bake 2½ hours.

Hawthorns from Seed.—"W. W. W.," Pittsburg, Pa.—The Hawthorn Seed was probably planted at the wrong season. Gather the berries when fully ripe, clean from the pulp, and sow at once (in Autumn); or still better, put into boxes of earth, and keep till Spring. The boxes may either be kept in cellars, or exposed during Winter. Sow early in the Spring, covering one-half inch with light soil. Muck, or wood scrapings, mixed with the covering soil, are good. Sometimes they do not vegetate freely the first season, but if undisturbed, will usually show themselves the following Spring. For a "short method," it has been recommended to soak them for one or more days in warm water, also in manure water. We can not say as to these methods.

Flower Pits.—Will "H." the writer of the plain, straightforward description of a Flower Pit, given in another column, please send us his or her address? We like the article, and desire others of the same kind.

Blackberries.—To A. C. D.—The New-Rochell-variety: called also the Seacor and the Lawton, is a valuable berry. We have watched it closely for some years past, and believe it worthy of general cultivation.

Potatoes—Which End to Plant?—C. W. Betts, of Long Island, puts this question. It is a mooted one, like most others in practical husbandry. John Brown of New-Hampshire, the originator of the Improved King Philip Corn, tried careful experiments to settle it. With Pink-eye potatoes, seed ends produced 170 pounds, and butt ends 217 on equal areas of land. With Peach-blows, the result was 179 to 225 on the same area. If this indicate the difference in the value of the two ends for seed, we may say that butt ends will add about one-fourth to the yield. Our correspondent can calculate whether this will pay for using butt ends exclusively for seed. Our manure article refers to the importance of giving plenty of food to the seed. This may explain why the butt ends of potatoes have proved best—there is more aliment to each set.

Pear on White Thorn.—J. R. F., of Pennsylvania, will probably lose his time and money, if he make the experiment. The pear will occasionally succeed on this stock, but is short-lived and unprofitable. When dwarfs and standards, two or three years from the bud, can be had at the nurseries for fifty cents each, a farmer will find it much cheaper to buy than to attempt to raise them himself.

Trimming Evergreens.—J. F. Gould, of Lebanon, expresses his surprise at our caveat against this barbarous custom. If you want an evergreen hedge or plaything in your grounds, you can play what fantastic tricks with it you please. But if you want a tree, we believe the model of Nature cannot be improved upon. First, set a young healthy tree with branches full and close to the ground, and then guard it against shears, knives, saws, animals, and the fierce northwest winds until it is well started. In good soil, a fir or spruce only asks to be let alone. It will make a more beautiful cone, without help, than with it. If it lose its lower limbs by decay or accident, we would pull up and plant anew.

Cranberries.—W. M. is answered on page 8 (January number).

Reliable Seeds.—John A. G., Esq., of Indiana, complains bitterly and justly, we have not the least doubt, of the impositions in seed, practised especially upon those residing at the West, and inquires where at the East he and others can get good seeds of various kinds. There ought to be reliable seedsmen nearer home, but if Mr. G. is disposed to go East at a trifling extra expense for carriage of seeds, we can only point him to our advertising columns. Whenever we have wanted seeds of any kind, we have gone to Allen's, Thorburn's or Bridgeman's, whichever happened to be the most convenient at the time, and have always got just what we stipulated for. Should our western readers find it necessary to try them, and find them not strictly honorable and reliable, let us know, and we will give them a touch of our steel — pen.

Fruit Trees Girdled by Necessity.—"Ovid" is informed that a common method of remedying this injury is to insert grafts into the wounded parts, above and below, thus making a bridge between the roots and branches, as shown in the cut. The whole should be covered with grafting-wax.



Pruning.—The experience of A. Jaques, of Geneva, accords with our teachings upon this topic.

Grapes.—D. C., of Virginia.—The varieties of grapes best adapted to out-door culture in this vicinity are Isabella and Catawba—the former dark, and the latter light purple. The kinds you allude to are the Black and White Scuppernong, grown abundantly at the South. Cuttings may be planted either perpendicularly, or in an inclined position. The latter is the more common method.

Giant Asparagus.—"Subscriber" wishes to know if this is owing to cultivation, or if it is a distinct variety. We have never found any difficulty in making the common kind of giant size, by a deep bed and high manuring. His plan is good. Let the bed be covered with coarse manure and litter every Fall.

Fermenting Manure to Kill Seeds.—J. B. Harris, of St. Lawrence County, asks if mustard, thistle, and grass seed will be killed by the heating of manure. If the fermentation is violent enough, all vegetable matter will be decomposed. But the outer side of compost heaps are seldom heated enough to destroy the vitality of these seeds.

Wild Rice.—Z. M. Drew, of Michigan, asks if this will grow at the East. It has been tried in Connecticut, but nothing very brilliant promises to come of it. Better drain the marshes where it will grow, and put in hoed crops or grass.

Raising Herd's Grass.—James Pott, of Pennsylvania, wishes to know the best method of doing this. The crop requires no special treatment. If for seed, of course it should be kept clear from everything else. If for hay clover, red top and blue top are sometimes sown with it. The common method is to stock the ground with this seed in the Spring, in connection with a crop of oats or Spring wheat.

Gapes in Chickens.—Jonathan Townley, of New Jersey, recommends tobacco water in the food for this complaint. It may be a good remedy, but we cannot certify it.

Borer in the Locust.—L. R. Murray, of Watertown, will find a wire thrust into the domicil of this insect, and under the fifth rib of his person, a very effectual argument against him. It is the homœopathic remedy. The disease is boring, therefore it is to be bored. A small dose of wire cures every invalid.

Malt Screenings for Cows.—David Edwards, of New-Jersey, sends us his experience in the use of this article for fodder. The cows utterly refused it after ten days, and became very weak in the hind legs. Cows want a variety of food—much bulky food with that which is solid. (See page 81.)

The Osage Orange.—John E. Freear, of Virginia, inquires about this plant for a hedge. An intelligent farmer from a section of Illinois where it has been a good deal planted, informs us that it has not met his expectations. It requires twenty feet of land upon each side of the hedge. If this is invaded by the plow, the hedge begins to fail. It may possibly do better in Virginia. We should not advise planting it without further experiments on a limited scale.

Onion Culture.—S. Wright, of Granville, Ohio, gives us the following hints on this topic:

In my mode of cultivating Weathersfield onions, although seventy-five years old, I have no need of boys' help. After the ground is well prepared, I plant my seed in rows sixteen inches apart, and in hills six or seven inches apart. If my ground is in good order, I plant as early in the month of April as possible, always pressing the ground down with the hoe or foot. As soon as the onions are fairly up, I hoe between the hills; and in a few days, between the rows, approaching as near to the hills as possible, without injuring the onions. In this way there is very little weeding to be done. Six or eight onions will grow in a hill, and be sufficiently large.

Winter Cherry—Physalis Peruviana.—The article on page 35 has called forth a multitude of inquiries, both for seed and for further information. Mr. Goodsell informs us that he has distributed to applicants all the seed he could spare or obtain, and received calls for much more from every section of the country. We have made several essays to procure seed elsewhere, but so far without success. Mr. G. has favored us with further particulars of the plant, which came too late for this number; they will be given in our next.

Barberry Bushes.—Henry Rogers, of Conn., assures us that several gentlemen in his vicinity are fully convinced that these bushes blast rye. The popular theory that this blast is caused by the pollen of the barberry flowers scattering upon the grain when in blossom, is unphilosophical. Grain will not grow well near any kind of shrub with strong roots like this. The roots appropriate the plant food, which the rye needs, and thus the heads do not fill out.

Rotation of Crops.—C. White, of Indiana, asks for the best rotation. This depends so much upon the markets in his neighborhood that we cannot advise him. Some rotation is necessary, and it should be in those crops that command the best prices. As a rule, grain crops should not immediately succeed each other.

Octavos Farmers' Club.—We have received from T. Wood, Esq., the obliging Secretary of this Club, a very able address, with their resolution to publish it in this journal. It is admirably adapted to the occasion on which it was delivered, but quite too long for our columns. It is full of valuable statistics and sound doctrine, and would form an excellent agricultural tract for distribution.

Stable Manures.—R. W. Saunders, of Virginia, will find his enquiries answered in Allen's Book of the Farm, and in our articles on Manures, in due time. For the book, see page 21 (January number).

Michigan Marls.—S. H. Holmes, of Liberty, inquires the value of this article. If they are composed of decayed shells of snails and clams, they must be valuable. See remarks on Jersey Marls, above.

Recipes.—John Brown, of Indiana, is right about the importance of these for the culinary department. We shall be obliged to any of our friends who will send us recipes which they have tested in their own kitchens.

Reading for Boys.—"A Farmer," sends us his experience in trying to get one of his neighbors to supply himself and boys with the Agriculturist. His story is one often repeated. His neighbor "ventures nothing and makes nothing." Our correspondent is justly anxious for the welfare of his neighbor's sons, one 15, and the other 17 years of age, who are growing up in ignorance, though they attend school in winter. They have a few books and no papers to occupy their evenings. He well says: "Boys who have nothing to amuse or instruct them at home, nothing new to read or to study, seek amusements elsewhere, breaking the Sabbath, strolling through woods and fields with other boys perhaps more vicious than themselves, congregating together evenings, when some master spirit of the young proposes some daring mischief, and it requires more firmness than many boys have who are not vicious of themselves to refrain from following. To parents I would say—keep your boys usefully employed, and when their daily labor is done, see that nothing is wanted on your part to instruct and store their minds with useful knowledge; not the light and silly trash, taken by cart-loads from too many of our printing presses, but real practical instruction, that will fit them for the several stations they may occupy. Give them a time for recreation, but be sure and keep a supply at the fountain of knowledge, keep the stream that pours into their young minds pure, supply them bountifully with useful books and papers, and the investment will be like bread cast upon the waters to return after many days."

Sugar-cane in France.—We have received, through the kindness of Mr. Robert Parsons, an early copy of the report of A. M. le comte De David Beauregard to the agricultural meeting at Toulon, upon the cultivation and alcoholization of the juice of the sugar sorghum, made in February. He speaks in terms of high commendation of the qualities of this plant, and among other things of its value for fodder. He says "we have nourished almost exclusively this season sixty head of large cattle with the products of a hectare, (about two acres,) which had borne sorghum the previous year, and sowed itself. The plant, notwithstanding its abundant bearing, exhausts the soil in a much less degree than many other plants, for I have harvested it during three consecutive years in the same place, with a slight manuring only each time, and the harvests have been firmer and finer. I will add that the sugar sorghum accommodates itself to all kinds of soils, provided that they be naturally moist, or that they be watered three or four times in Summer, as they do for maize in Provence. It does best in an alluvial soil, very cool, very deep of the same consistence, and in which the calcareous elements will do no harm." This is the testimony of a distinguished Frenchman, which is certainly sufficiently strong. It is well to know what our neighbors across the water think of it

White Pines and Muck.—John Carter, of Penn., asks information on these topics. In our opinion, it will pay to plant the white pines in the thin woodlands. The seed may be gathered in the Fall, before the frost dislodges them from the cones, or can be purchased of nurserymen. We should prefer to turn in clover to carting muck a mile or more, as a general thing, though the extra teams of the farm may well be employed in Winter in distributing muck previously thrown up and dried.

Comparative Value of Plaster and Ashes.—J. R. Wright, of C. W., makes inquiry upon this point. The economy of using plaster depends so much upon the character of the soil, that nothing but experiment can determine the question for his land. Ashes and lime, at the prices he names, are valuable fertilizers, particularly on cold wet lands. See articles on manures.

The Dioscorea at the South.—Robert Chisolm, of South Carolina, writes us that "this plant has proved an entire failure the past season. Of ten plants received from New-York, only one survived the Summer, and that is about as large as a Pindar, or pea-nut." We are sorry that any part, and all, of our beloved country is likely to be deprived of "this richest boon ever bestowed upon the race."

Grass Seed for Hay.—Asa Parker, of N. C., wishes to know the best varieties to sow for the hay crop. Meadow-grass, (*Poa pratensis*.) Timothy, (*Phleum pratense*.) and Blue-grass, [*Poa compressa*.] with several other varieties, are good. Timothy does well on reclaimed marshes, and from the location of Mr. Parker's land, we think this variety will not disappoint him.

An Absorbent for Night Soil.—E. Williams, of N. J., is informed that wood ashes are unsuitable; they send off the ammonia. Muck or peat is good, and the drier the better. Loam is good, and a subsoil in which clay predominates will answer. The coal ashes, if dry, will do as a divisor, but have little absorbent power upon the gases. Plaster is also good to mix in.

Cider Punice.—John Payne, of Conn., inquires if this has any value. It contains probably a good deal of acid, which would be injurious to vegetation. Correct this by the use of lime in a compost heap, and he can determine whether it is worth saving or not. We recommend saving and using all organic matter on the farm.

Horticultural Society.—D. B., of Utica, suggests the propriety of forming a society for the exhibition of flowers in this city. We have such a society, and occasional exhibitions. They will become more numerous as floriculture makes progress among us.

Patent Cow Milkers.—We do not believe in them. Not even the eloquence of our friend Petit, of N. J., can convert us. Sorry it is so, but we are incorrigible as yet.

Analysis of Soils.—E. A. Weston, of Penn., inquires for the best treatise on this subject. This is a very nice business, and should only be attempted by very skillful and long-experienced chemists.

Col. Joseph Paxton—Invites us to visit the valley of the Susquehanna. We should only be too happy to accept his hospitalities, did time permit. We shall keep an eye that way—and perhaps go there.

Tomatoes.—O. Farwell inquires about the healthfulness of this vegetable. They are regarded as a wholesome article of diet for all classes, by the "faculty."

Compost.—We refer our correspondent, J. R. Kenyon, and other inquirers, to our series of articles on manures.

J. H. Capwell—Answer to your letter waiting room.

Corn Song—Very good. Will appear in due time.

Bommer's Manure.—"A Subscriber" inquires the value of this method. It has been before the public some dozen years or more. A friend purchased a book containing the "secret," for which he paid \$5, "expecting to make his fortune by cheap fertilizers." The pile of manure, "a la Bommer," is yet to be made, though the book has been on hand for ten years. We have not much faith in any process of manure-making hawked about the country for sale as a secret. Our correspondent should use his best facilities for making fertilizers at home. Full one-half of these are ordinarily wasted. Bone-dust will pay at anything less than a cent a pound; for some crops, it is worth more as a special manure.

New-Jersey Marls.—A. S., of Pittstown, puts a series of questions about these marls, that can only be answered by a minute chemical analysis, costing perhaps fifty dollars, which we have no time to make. It is the business of parties having marls to sell to procure such analyses from the best chemical authority. One from Professor Johnson, of New-Haven, showing what these marls were worth for manure, would command the confidence of intelligent cultivators, and greatly increase their sale, if valuable. Without some such authority, our answers would necessarily be mere speculations, which are not particularly profitable. "Facts," as Mr. Gradgrind would

say, "are what we are after." We shall be glad to hear about that new kind of fence, "short, and to the point."

Queen's Portable Forges.—C. W. Hartshorn, of N. J., wishes to know if these are suitable for farmers' use. If a farmer lives at a distance from the blacksmith, and has a native aptness for tinkering, it is well to have one of these forges, which are compact and very convenient and cheap. As a rule, every farmer ought to have enough to do in his own calling to fully occupy his time. "Every man to his calling."

Emigration vs. Improving the Old Farm.—David W. Wilson, of Penn., asks light as to the better course for Eastern farmers. It depends so much upon the character of the man, that we cannot give advice in his case. As a rule, we think men who own farms at the East will do better to improve them than to go West. If he will use his saw-dust and muck liberally in his stables and yards, sow plaster for clover, make compost heaps of muck and lime to spread and plow in for corn and potatoes, he will probably change his opinion of the productiveness of the old farm.

Our Seed Distribution.

From the simple offer of a few thousand packages of the new Sugar-cane Seed to our subscribers, made in December last, this business has grown to an undreamed-of magnitude. During the past month letters of application have come in daily by the bushel. We shall send out this season, alone, at least 60,000 packages, and we know not how many more, as the demand is still as great as ever. These are scattered all over the country—here a little and there a little. More than half a ton of Sugar-cane Seed will barely supply the calls upon us. We have succeeded in securing, in all, about three-fourths of a ton, to be ready to meet all demands. The other varieties of seeds offered last month have gone by dozens of bushels.

But notwithstanding the expense and labor attending this enterprise, we confess to a liking for it. The income of the paper furnishes abundant means, and it is our present purpose to follow up the plan hereafter. We are already looking out for the cultivation of new and valuable seeds during the coming Summer, so as to be prepared to distribute them largely next Winter. Our only regret is, that we were not prepared to make earlier arrangements, attend to the business more systematically, and give a greater variety of choice to subscribers the present season, embracing flower seeds, &c., for our many lady subscribers and readers. They shall be duly remembered next Winter.

From our location and peculiar facilities, and by a wholesale operation, we can furnish seeds a hundred times better and cheaper than isolated individuals can get them otherwise. A little parcel of corn or oats taken in a letter packet from our office, and dropped by the mail carrier, say in a remote eastern or western town, if it prove valuable there, will soon be multiplied and become diffused through the surrounding neighborhood, and the same will be the case in tens of thousands other localities. Our sheet (and its seed offers) already reaches over fifteen thousand different Post-Offices, from Maine to California and Oregon, and across the two oceans bounding our Continent. But notwithstanding our large measure of success, our hopes and expectations are far higher. If Bro. Moore, of the *Rural*, will excuse us for using his favorite term, we will say—*EXCELSIOR is our motto.*

Prepare the Seed Envelopes.

We must again ask those sending for seeds to prepare the envelopes as directed on page 66, March No. When half a bushel of letters come in at a time, it is next to impossible to open them all, sort the envelopes, hunt out from a long letter just what kind of seeds are desired in each, label the letters single, double and mixed, for five kinds of seed, so that the seed clerks may know what to do with them, and not sometimes make a mistake. Please note what is said on page 68 about marking the left upper corner, putting the stamps one over the other on the right margin, &c. Also give the name and address in the letter accompanying the envelope. These are small matters in individual cases, but amount to a good deal with us in handling over sixty thousand such envelopes.

Sweet Corn Scarce.

The rush of applications for both Darling's and Stowell's Sweet Corn, offered in our last, is fast diminishing the twenty odd bushels we had provided at first, and we find it exceedingly difficult to procure more good seed at any price, though we have partial hopes of getting at least ten bushels. Lest we should fail in this, will those applying hereafter please name whether King Phillip Corn or White Poland Oats would be preferred as a substitute, should we be finally obliged to make some substitute. We cannot, hereafter, send more sweet corn of either kind than will go under a three-cent postage-stamp. When more than one stamp comes on an envelope we will return it enclosed.

Large Seed Premiums.

A great number of persons have written desiring to purchase of us large quantities of the Sugar-cane Seed. We have generally declined these applications, for three reasons.—first, we have not had it; second, we pledged ourselves to distribute our entire former supply free; and third, when we became both editor and proprietor of this paper, we determined to remain free from all business operations whatever, except those legitimately connected with the publication, to the end that we might be entirely independent, and on this account have refused to dabble with outside purchases and sales of any kind.

It is, however, our legitimate business to extend our circulation as widely as may be, and having now new seed enough to warrant it, we offer to remunerate any one for time spent in soliciting new subscribers, after this date, by giving to the person sending a club of six [for \$5] a package of about 10,000 Seeds, or full half a pound; and for a club of ten, [for \$8.] a package of 20,000 Seeds, or about one pound. The persons calling for these will need to provide for their delivery, by express or mail, according to their location. The cost of sending by mail a pound of seed and the packing bag, will be a trifle over \$1. Any excess we will pay.

N. B.—Any person intending to secure this premium, but wishing to receive the seed at once, can immediately order the number of copies he will want, and have them sent to his own address with the seeds, and then procure his list of subscribers, and deliver the papers to them as received. New subscriptions can begin with the volume, as the numbers are stereotyped.

An Abundance of Sugar-cane Seed.

AN EXPLANATION.

From the first we had no very high hopes of the value of the Sorghum Sacharatum (nor indeed of any other), as a Northern sugar-producing plant, and we were somewhat surprised at the result of our own small experiments, and the favorable reports from others, the most striking one being that of Mr. Hewlett, given on page 38, (Feb. number.) We have repeatedly cautioned our readers against entering into any outlay in its cultivation the present season, beyond a small experiment, though even an acre or two can scarcely result in loss if it be grown for forage only. There is likely to be enough who will test its value for sugar-making to decide that point the present year. Our first intention was to send out to our subscribers, in small parcels, what seed we had raised and such as we could procure conveniently, the chief aim being to furnish enough to plant thirty to fifty hills, (or their equivalent, in drills,) that its growing and ripening capabilities might be tried in different localities, and seed secured in abundance for another year, if wanted. We first offered 200 to 250 seeds to all desiring. This was all our then supply would warrant. Seeing a considerable mania to procure seed, and receiving private offers for our entire lot, at high rates, from irresponsible speculators who wished to peddle it in small parcels at the West, at exorbitant prices, suggested the idea of advertising the fact that all our subscribers, old or new, would be supplied free—we say free because we believe we give the dollar's worth in the paper itself.

As our stock of seed began to run short, we made great exertions to replenish it, and measurably succeeded, as announced last month. But to our earnest inquiries whether an unlimited supply of a reliable article could be procured in France, we could get no definite answer until the middle of March, when, much to our satisfaction, we procured nearly half a ton, half of it in hand and the remainder soon to arrive. We immediately increased the amount offered to 600 seeds to each future single applicant, and 1,000 seeds each to clubs of six or more, when prepaid envelopes were supplied to send them in. Since that date, we have returned in every single-stamped envelope fully 400 seeds, or as many as could go under a single stamp, and when two stamps came we have put in at least 600 seeds, as nearly as they could be measured out, and this will be continued up to the latest period of planting, unless our supply should chance to run out, which is not likely to happen, as we have a large stock, and also have hopes, though not a certainty, of getting still more if it is called for.

We regret that we could not at the time send more to the first applicants, but probably the amount first sent will, in most cases, be all desired for this year's experiment.

An opportunity to obtain half a pound or pound, or more, is made known under the head of "Premiums."

Great Sale of Short-Horn Cattle.

We understand that Mr. Lewis G. Morris, of Fordham, has sold the whole of his magnificent herd of Short-Horn cattle to Mr. Samuel Thorne, of Washington, Dutchess County. These added to the superb animals heretofore imported by Mr. Thorne, makes his herd, taking its high breeding into consideration, superior to anything in Great Britain or America, excepting perhaps that of Mr. Bates.

Improved Stock for California.

We were glad to notice on board the steamer Illinois...

The Advertisements.

We regret to have disappointed many advertisers who sent in their favors...

The advertisements are "made up" with reference, in part to classification...

Advertisements.

TERMS—(invariably cash before insertion):

Twenty-five cents per line (of ten words) for each insertion.

FREEHOLD INSTITUTE—A BOARDING SCHOOL FOR BOYS...

The LOCATION is remarkably healthy, entirely free from chills and fever...

The ACCOMMODATIONS and facilities of the Institution are of an unusually liberal character.

Pupils are prepared for Commercial, Mechanical and Agricultural pursuits...

CHILDREN—BOYS AND GIRLS.

THE SUMMER SESSION OF THE ASHLAND COLLEGIATE INSTITUTE...

A SPECIAL COURSE of study is pursued by those who are fitting for Agricultural pursuits.

C. M. SAXTON & CO., AGRICULTURAL BOOK PUBLISHERS.

Have just added to the number of books published exclusively by them the following valuable works:

- Waring's Elements of Agriculture... 75
Dadd's Anatomy and Physiology of the Horse... 2
Dadd's Modern Horse Doctor... 1
Coles' American Veterinarian... 50

NEW HAND-BOOKS FOR HOME IMPROVEMENT BY MAIL.

HOW TO WRITE: A NEW POCKET

Manual of Composition and Letter Writing. A popular Hand-Book, embracing hints on Penmanship...

HOW TO TALK: or Hints toward a Grammatical and Graceful Style in Conversation and Debate.

HOW TO BEHAVE: A Manual of Etiquette and Guide to Correct Personal Habits...

HOW TO DO BUSINESS: A Guide to Success in Practical Life, and Hand-book of Legal and Commercial Forms.

One Dollar will pay for the four works, in paper, and \$1 75 in muslin. They will be sent to subscribers, postpaid, as set out above, by FOWLER AND WELLS, 308 Broadway, N. Y.

BOOKS FOR THE SEASON.

FRUITS AND FLOWERS.

- Sent free of Postage on receipt of Price!
Chorlton's Complete Grape Grower's Guide;
For the Vineyard, Cold Grapery and Forcing House... 60
Allen on the Grape;
A well-known and reliable work... \$1 00

C. M. SAXTON & CO., Agricultural Book Publishers, 140 Fulton-street, New-York.

EMPLOYMENT FOR THE YEAR!

BOOK AGENTS! BOOK AGENTS!

Please to read this. Agents wanted. Extra inducements for 1857.

ALL PERSONS IN WANT OF EMPLOYMENT, will at once receive our Catalogue of Books, prepaid, by forwarding us their address.

QUARTO PICTORIAL FAMILY BIBLE. With about ONE THOUSAND ENGRAVINGS. Our Books are sold only by Canvasers, and well known to be the most saleable.

NEW DAHLIAS AND VERBENAS FOR 1857.

GEORGE C. THORBURN, NEWARK, N. J., begs to call attention to the following choice varieties, selected from his general stock...

DAHLIAS. Archbishop of Canterbury (Rawling's); crimson maroon, shaded with purple; extra fine and constant.

Archbishop of Canterbury (Rawling's); crimson maroon, shaded with purple; extra fine and constant. Bessie (Drummond); clear bright yellow; extra.

Price of the above \$1 50 each; or a dozen for \$12. DAHLIA—"Crystal Palace Scarlet;" a dwarf bedding variety, the branches of which can be pegged down...

VERBENAS.

New varieties, raised by E. Banks, Esq., of Deal, England. Those with * are new American seedlings, raised by D. Barker & Co., of Utica, N. Y., now first sent out.

*Yellow Beauty (Turner's); one of the "gems" of last season; bright orange in the way of "Morning Star," smooth petals; ex. Reginald (Keynes); primrose, with purple tip; chaste flower. Sebastopol (Smith's); large shaded buff; noble show flower.

*Queen of Summer; delicate satin blush; lemon eye. Viscountess Enlyin; white, with bright rosy crimson eye, fine formed truss, and superior habit; extra.

*A collection of fifty Verbenas, including six to twelve of that unequalled rosy scarlet, Brilliant de Vaise, a flower, like Dianthus, for all time!

Orders may be sent direct, or if left at J. M. THORBURN & CO., 15 John-street, New-York, will meet immediate attention.

CHICKEN AND HOG FEED.—FOR

sale, a quantity of Beef and Pork Scraps, a superior and cheap article for swine and poultry, also for sows.

WILLIAM C. HALL, No. 432 Ninth Avenue, New-York.

FARM FOR SALE.

THE UNDERSIGNED OFFERS FOR

sale the FARM heretofore owned and cultivated by M. SHERWOOD, Esq., at Auburn, N. Y. It contains 290 acres, under a high state of cultivation...

The dwelling house is of brick, in modern style, and very pleasantly situated. 240 acres lie in a body, within the limits of the city of Auburn, and will be sold with the other 50 acres, if desired.

Some of the best stock ever bred by Mr. Sherwood, is still on the farm, and may be had with it. For further particulars, address the undersigned, or J. M. SHERWOOD, Esq., at Auburn, N. Y., or inquire of B. P. JOHNSON, Esq., State Agricultural Rooms, Albany.

Feb. 10, 1857. CHAS. P. WOOD.

FARM FOR SALE,

IN BUCKINGHAM COUNTY, VIRGINIA.

THE UNDERSIGNED, WISHING TO

close his Farming operations in Buckingham County, Virginia, offers for sale, upon reasonable terms, or in exchange for city property, two valuable tracts of land, being within six miles of Buckingham Court House...

Address E. OWEN (now upon the premises), at Buckingham Court House, Virginia; or E. OWEN & SON, No. 212 Pennsylvania avenue, Washington.

FIELD AND GARDEN SEEDS.

A FULL ASSORTMENT OF THE

choicest Foreign and Domestic Field and Garden Seeds, raised expressly for my trade. All genuine and of the best kinds. For sale wholesale and retail.

SORGHUM SACCHARATUM, or CHINESE SUGAR-CANE, both of foreign and home growth, put up in dollar packages, with printed directions for planting.

KING PHILIP, or BROWN CORN. WYANDOTTE CORN. LARGE SOUTHERN CORN. WHITE and YELLOW FLINT CORN.

SPRING BARLEY—Extra choice quality. SPRING RYE. SPRING WHEAT—Fife, Tea, Golden Drop, Canada Club and Black Sea.

POTATOES—Prince Albert, very superior, Dikeman. Early June, Ash Leaf-Kidney, Mercer, and other choice varieties. SPRING AND WINTER VETCHES, BROOM CORN, PEAS of every choice variety, BEANS ditto.

GRASS SEEDS.—Timothy, Red Top, Ray, Orchard, Blue Sweet Scented Vernal, Fowl Meadow, &c. CLOVER—Large and Medium Red, Dutch White, Lucern or Alfalfa, Alsike, Crimson, Sanfoin, Sweet Scented.

MILLET—Extra clean for sowing. FLOWER SEED AND HERBS—All new and valuable varieties. RED AND YELLOW ONION SETS—Top or Button Onions, Potato Onions.

APPLE, PEAR AND QUINCE SEEDS, PEACH Pitts, &c. OSAGE ORANGE.—Yellow and Honey Locust, Buckthorn. MUSHROOM SPAWN TOBACCO SEED—Havana, Virginia, and large Connecticut Leaf—all choice varieties.

BRID SEED.—Canary, Hemp, Rape, May and Rough Rice. GRATING WAX, WHALE SOAP, GUANO and SUPERPHOSPHATE OF LIME, in small packages of 25 cents each.

FORGING GLASSES, SYRINGES, and a full assortment of HORTICULTURAL IMPLEMENTS, VINE and FLOWER SCISSORS, GRASS and HEDGE SHEARS, &c., &c. STRAWBERRY, CURRANT, and RASPBERRY SEED.—Lawton Blackberry, Red Antwerp, Fastolf and Franconia Raspberry, Hovey's, and other choice Strawberries, Cranberry, Pie Plant or Rubarb, Asparagus, Osage Orange, and other plants.

Catalogues furnished on application. BOOKS.—A choice variety of standard works on Horticulture, Agriculture, trees, drainage, &c., &c. R. L. ALLEN, 189 Water-st., New-York.

FIELD AND GARDEN SEEDS, AGRICULTURAL AND HORTICULTURAL IMPLEMENTS

of the most approved patterns.

Farmers will find it to their advantage to call and see our

LITTLE AMERICAN MOWER AND REAPER.

It weighs only 450 pounds, light draft, no side draft, and warranted to give satisfaction. Sold at the low price of \$100 as a Mower; \$120 as Mower and Reaper. Sold by GRIFFING BROTHER & CO., 60 Courtlandt-st., New-York.

GENUINE MOHAR OR HUNGARIAN

MILLET SEED—A new and fine variety, very hardy, resisting extreme drouth, and yielding a large quantity of the choicest forage, at the Agricultural Warehouse and Seed Store. R. L. ALLEN, 189 and 191 Water-st.

LINNEUS RIUBARB.

PARSONS & CO., FLUSHING, NEAR NEW-YORK.

OFFER FOR SALE THIS SUPERIOR

variety of PIE PLANT, at \$10 per hundred, or \$80 per thousand crows.

PARSONS & CO.,

FLUSHING, NEAR NEW-YORK.

OFFER FOR SALE AN ASSORTMENT of Trees and Plants which they have grown for the use of amateurs, and have prepared, by frequent transplanting and other modes, for success in moving.

They are of fine size and symmetrical form, and among them will be found
STANDARD APPLES of fine quality.
STANDARD PEARS, PLUMS and CHERRIES.
PEACHES, APRICOTS and NECTARINES, on Plum stocks and their own roots.
DWARF PEARS of fine form, and ready for bearing.
GOOSEBERRIES and CURRANTS, strong plants of the best sorts

RASPBERRIES—FASTOLF, RED ANTWERP, FULLBASKET and other known sorts.
STRAWBERRIES of all the best varieties.
NATIVE GPAPES—ISABELLA, CATAWBA and other hardy varieties

FOREIGN GRAPES—All the well-known sorts, with some new varieties of great excellence. These plants are propagated from vines that have borne abundantly for some years, and are known to be correct.

Great care is taken in the cultivation of Fruit trees, and none but those of the best quality are allowed to be sent out.

THE ORNAMENTAL DEPARTMENT

Contains Trees of all sizes for lawns and streets, including *Elm, Silver, Norway and Sycamore Maples, Catalpas, Lindens, Tulip Trees, Cypress, Larch, Willows, Ash, Abele, Oriental Plane* and all the best varieties of deciduous trees

It also includes Evergreens of fine size for single planting, and of small sizes at low prices, from one foot upwards, for massing; among them are *Norway Spruce, Balsam Fir, Austrian Pine, Hemlock, White Pine, Scotch Fir* and other varieties.

The best shrubs include many fine varieties at low prices, for massing, of which the *Rhododendron Catawbiense* can be particularly recommended for its fine evergreen foliage, showy bloom and perfect hardiness.

The **ROSES** are cultivated in very large quantity, on their own roots, of all the most rare varieties, and to those who purchase in quantity will be sold at greatly reduced rates.

THE EXOTIC DEPARTMENT

Contains a fine assortment of *Camellias*, grown as bushy, rather than tall, slender plants; and also contains all the well-known varieties of exotic plants and many rare sorts introduced from Europe annually. These are all carefully grown for those who desire plants of symmetry and beauty.

CATALOGUES of all the departments will be furnished on application. Great care will be taken in packing, and trees will be delivered in New-York and thence shipped as directed.

ESTABLISHED, 1829.

REBUILT AND ENLARGED, 1856.

BRIDGEMAN'S

HORTICULTURAL ESTABLISHMENT,

Nos. 876 and 878 BROADWAY,

NEW-YORK.

NURSERY AND GREENHOUSES, ASTORIA, N. Y.

Always on hand a Large and Choice Selection of

FIELD, VEGETABLE, HERB,

AND

FLOWER SEEDS;

HORTICULTURAL BOOKS,

AND

GARDEN TOOLS.

A FULL ASSORTMENT OF ROSES, GREENHOUSE AND HOTHOUSE PLANTS, HARDY HERBACEOUS PLANTS AND ROOTS,

FRUIT AND ORNAMENTAL TREES.

SHRUBS, VINES, &C.

BULBOUS AND TUBEROUS ROOTS

IMPORTED ANNUALLY.

Every article pertaining to the business furnished at reasonable rates, and warranted as represented. All Seeds fully tested before being offered. Orders by mail will be attended to with scrupulous exactness and promptitude.

Catalogues furnished on application.

WM. R. PRINCE & CO., FLUSHING.

N. Y., will transmit the Catalogues of their Unrivalled Collections to applicants who enclose stamps.—No. 1, Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs and Plants. No. 2, Roses, Dahlias, Bulbous and Herbaceous Flowering Plants, &c. No. 3, extra large Fruit Trees, Evergreens, and other Ornamental Trees and Shrubs. No. 4, Wholesale Catalogue for Nurseries and Dealers, comprising Trees, Shrubs, Plants, Stocks for Engrafting, and Tree and Shrub Seeds, &c. No. 5, Catalogue of Garden, Agricultural and Flower Seeds. No. 6, Descriptive Catalogue of the Finest Strawberries. No. 9, Supplement Catalogue of Bulbous Flowers, New Dahlias, Paeonies, Chrysanthemums, Phlox, Carnations, and other rare Flowering Plants. No. 11, Treatise on Culture of Chinese Potato or Dioscorea Batatas, on Licorice, Tanner's Sumach, Fig Almond, Olive, Osier, Chinese Sugar Cane and Earth Almond. Books.—Prince's Treatise on the Vine, \$1; Treatise on Fruits, containing descriptions of 800 varieties of Fruits, \$1 50.

FRUIT AND ORNAMENTAL TREES,

including Evergreens, the finest collection in the Union, 1,700 pounds **CHINESE SUGAR CANE**, and parcels of 8,000 seeds (post-paid) for \$1 25.—**CHINESE (Imperial Rice White) POTATO**, the most valuable of all esculents, the only ones for sale of *American growth*, \$2 per 20, \$20 per 100.—**Osier Willows**, \$2 to \$3 per 1,000.—**Lawton Blackberry**, \$18 per 100, \$3 per dozen.—**Grapes**, Gooseberries, Raspberries, Currants and Strawberries, at lowest rates.—**Victoria and Linnaeus Rhubarb**, \$9 per 100; **Arbor Vita** for hedges, 1 to 8 feet; **Evergreens** of all kinds; **Tree and Shrub, Vegetable, Flower and Evergreen Tree Seeds**; **Earth Almonds**; **Yellow and Honey Locust Seeds**.

Priced Catalogues sent to applicants who enclose stamps. N. B.—After April 20th, the price for Chinese Potatoes will be advanced 50 per cent. **WM. R. PRINCE & CO.** Flushing, New-York.

NEW-JERSEY PEACH TREES—FIRST

CLASS, 1 year budded, 4 to 6 feet high. I will deliver in New-York city for \$75 per 1,000. Also Pear, Plum, Cherry and Quince Trees. **WM. DAY**, Morristown, N. Y.

HIGHLAND NURSERIES,

NEWBURG, N. Y.

FORMERLY

A. J. DOWNING & CO.

THE SUBSCRIBERS IN CALLING the attention of the Public to their stock for Spring planting, beg leave to say that at no former time have they been so well prepared to meet the constantly increasing demand for Trees, &c., &c., as at present.

In the **DEPARTMENT OF FRUITS**, their stock of Trees of Apples, Pears, Cherries, Peaches, Apricots, Nectarines, &c.; also, strong Plants of Grape-vines, Gooseberries, Currants, Raspberries, Strawberries, &c., &c., as well as all the smaller and miscellaneous Fruits, are of the best quality as regards size and thriftiness, and include all the best varieties in cultivation.

The **ORNAMENTAL DEPARTMENT** is also full and complete in all the leading varieties of Evergreen and Deciduous Trees and Shrubs, many of which are of extra size, suitable for tree planting, or giving immediate effect around newly erected residences.

A fine collection of **Roses**; also, Hedge Plants, Asparagus, and Rhubarb Roots, &c. &c., and all articles that are usually to be had in the trade. For further particulars see Catalogue, a copy of which will be mailed to applicants on inclosing a postage stamp to prepay the same.

Orders by mail promptly attended to, and packed in the best manner, and forwarded as directed, but after delivery to forwarders at the risk of purchasers.

NEWBURG, March 20, 1857.

A. SAUL & CO.

HIGHLAND NURSERIES—COWLES

& WARREN, Proprietors, Syracuse N. Y., Successors of BARNES, PHIPPS & PUTNAM.—All new and approved varieties of Fruit and Ornamental Trees and Shrubs, Evergreens, Roots, &c., furnished singly, by the dozen, or hundred, as may be wanted for orchards or gardens.

Our high ground produces very hardy plants, that bear transplanting to any soil or climate—varieties guaranteed.

EVERGREEN TREES.

PARSONS & CO., FLUSHING, NEAR

NEW-YORK, offer for sale—

- Norway Spruce, grown far apart, symmetrical and bushy, 1 to 5 feet high, at \$8 to \$50 per 100;
- Siberian Arbor Vita, 2 feet, 40 do.
- do. 2½ to 3 feet, 60 do.
- Cedrus Deodara, 4 feet, 40 do.
- Ahies Morinda, 1½ do. 50 do.
- Rhododendron Catawbiense, 1 foot, 50 do.

With many other varieties suitable for the trade, or planting in masses.

FRUIT, ORNAMENTAL AND EVER-

GREEN TREES.—CHAPMAN, JACKSON & CO., No. 116 Broadway, New York, will keep constantly on hand and for sale during the Spring, a large assortment of Fruit, Ornamental and Evergreen Trees. Also a large stock of small American Arbor Vita, in fine condition for Hedges and Lawns, which will be offered very low. Any quantity furnished to order.



ISABELLA AND CATAWBA GRAPE

VINES, of proper age for forming Vineyards, cultivated from, and containing all the good qualities which the most improved cultivation for over sixteen years has conferred on the Croton Point Vineyards, are offered to the public. Those who may purchase will receive such instructions for four years, as will enable them to cultivate the Grape with entire success provided their locality is not too far north.

All communications addressed to **R. T. UNDERHILL, M. N.**, New-York, or Croton Point, Westchester County, N. Y., will receive attention.

The additional experience of the four past seasons gives him full assurance that, by improved cultivation, pruning, &c., a crop of good fruit can be obtained every year, in most of the Northern, all of the Middle, Western and Southern States.

N. B.—To those who take sufficient to plant six acres, as he directs, he will, when they commence bearing, furnish the owner with one of his Vinedressers, whom he has instructed in his mode of cultivation, and he will do all the labor of the vineyard, and insure the most perfect success. The only charge, a reasonable compensation for the labor.

Also, **APPLE-QUINCE TREES**, (which are sometimes called the Orange Quince,) for sale as above.

R. T. U.

ISABELLA GRAPE VINES FOR SALE,

from one to three years old, by **S. E. VAN WYCK,** Fishkill, Dutchess County, N. Y.

NEW-ROCHELLE OR LAWTON

BLACKBERRIES, in large or small quantities, for sale by **R. L. ALLEN**, 189 and 191 Water-street.

LAWTON (OR NEW-ROCHELLE) BLACKBERRY.

WE ARE PREPARED TO FILL OR-ders PROMPTLY for GENUINE PLANTS of this remarkable fruit, carefully packed for shipment to any part of the world, from the largest and most reliable growers, at the following

GENUINE PRICES, viz.:
 \$18 per hundred; \$10 per fifty; \$5 for twenty-five.
 \$3 per dozen; \$2 00 per half dozen.

Pamphlets treating of Origin, Characteristics and Culture of the plant, forwarded on application.

DREW & FRENCH,

Commission Dealers in Domestic Fruit and Produce, No. 85 Barclay-street, New-York.

THE NEW-ROCHELLE BLACKBERRY.

THE STOCK OF PLANTS OF THE late **ISAAC ROOSEVELT** is now offered at reduced prices, viz. \$15 per 100; \$8 for 50, and \$3 per dozen, carefully packed without extra charge, with directions for cultivation with each package.

N. B.—This is the same variety which is by some, though erroneously, called the **LAWTON BLACKBERRY**. Also **HOP TREES**—A rare and useful Tree, whose fruit possesses all the properties of the ordinary Hops. Price \$1 each.

P. C. ROOSEVELT, Pelham, Westchester county, N. Y.

LAWTON BLACKBERRY PLANTS

The Subscribers announce to their friends and customers that they have now

OVER SIX ACRES

of the

GENUINE LAWTON

BLACKBERRY PLANTS

under cultivation, and in good condition.

They are therefore prepared to fill large orders the coming **FALL** and the following **SPRING**.

PRICES.

\$18	per	Hundred plants.
\$10	per	Fifty plants.
\$5	per	Twenty-five plants.
\$3	per	Dozen plants.

N. B. All plants ordered of us will be **TAKEN** up and **PACKED** with the **GREATEST CARE**; and **UNDER OUR OWN PERSONAL SUPERVISION.**

Of the **MANY THOUSANDS**

sent out by us last year we have heard very few instances of failure, notwithstanding that they have been forwarded to

EVERY PART OF THE COUNTRY,

and the setting out has often been entrusted to unskillful hands. Printed directions for setting and cultivating are sent with every package.

GEORGE SEYMOUR & Co., South Norwalk, Conn.



LAWTON BLACKBERRY.

PURCHASERS ARE ADVISED TO obtain the *genuine* variety, and in *original, unbroken packages*, and have their ground prepared so as to plant them as soon as received.

For sale in packages carefully prepared for safe transportation.

One package of half a dozen plants,	\$2
one dozen "	3
two dozen "	5
Fifty "	10
One hundred "	18

The money should accompany the order, with name and directions distinctly written.

WM. LAWTON, 54 Wall-st., New-York.

THE ALLEN RASPBERRY.

I AGAIN OFFER FOR SALE A LIMITED number of Plants of this excellent thrifty, hardy **RASPBERRY**. They having been for the first time advertised last Fall, the supply then on hand for sale was mostly taken, and but a few are now left. Next Autumn, they will again be for sale.

LEWIS F. ALLEN, Esq. of Black Rock, N. Y., has for many years cultivated this fruit in the garden grounds (which I now occupy), on his Grand Island farm. It is allied to the Red Antwerp variety, but is not the "true" Red Antwerp of the gardens and nurseries. The bush grows much larger, needs no sort of covering or protection in Winter, and bears abundant annual crops of delicious fruit of the first quality.

Packages of ten to fifty plants will be delivered at the Express Office in Buffalo previous to the first of May, at 10 cents the Plant. For packages of five dozen or more plants, \$1 per dozen. Remittances to come with the orders.

Address care of **L. F. ALLEN, Esq.**, Black Rock, N. Y. **THOMAS DUFF.** March 21, 1857.

FASTOLF AND RED ANTWERP RASPBERRY PLANTS.

The subscriber offers for sale a large stock of **Fastolf, Red Antwerp (Hudson River Var.), White Antwerp and Yorkshire Raspberry Plants**, at the following low prices, viz.:

Fastolf,	\$1 00 per dozen;	\$5 per hundred;	\$45 per thousand.
*Red Antwerp 50	do	2 do	18 do
White do 150	do	8 do	
Yorkshire,			
(good Eng. var.) 75	do	4 do	30 do

* This variety is extensively cultivated on the banks of the Hudson River for market, and produces \$200 to \$300 worth of fruit per acre.

Also a good stock of **Fruit and Ornamental Trees, Flowering Shrubs, Vines, &c. &c.** at low prices, wholesale and retail.

N. B.—Basket Willow Cuttings furnished to order. Catalogues furnished gratis, on application. **FLUSHING, Long Island, GEORGE D. KIMBER,** 3d month, 20th, 1857. Nurseryman.

STRAWBERRIES.

THE FOLLOWING VARIETIES CAN

still be furnished from my grounds: HOVEY'S, WALKER'S and JENNEY'S SEEDLINGS; L. EARLY SCARLET, MONROE SCARLET, CRIMSON CONE, MOYAMENING, SCHNEIKE'S PISTILLATE, WILLEY'S, and IOWA'S or WASHINGTON, at \$1 single hundred, 75 cents in lots of five hundred, and \$5 50 per thousand, warranted pure. Also the EXTRA RED, GENESEE SEEDLING, and LONGWORTH'S PROLIFIC, at \$1 50 and \$2 50 per hundred, and will furnish plants from a bush of LONGWORTH'S PROLIFIC, McAVOY'S SUPERIOR, and EXTRA RED, of equal proportions, at \$1 per hundred, 75 cents for five hundred, and \$6 50 per thousand. Also FASTOLF, FRANCONIA, RED ANTWERP (True), and YELLOW or WHITE ANTWERP, all at \$3 per hundred, or \$25 per thousand. J. M. WARD, Newark, N. J.

CRANBERRY PLANTS—OF SEVERAL cultivated varieties, for sale (price from \$3 to \$7 per 1,000) by **E. BAGLEY,** Usquepaug, Rhode Island.

GENUINE CHINESE SUGAR CANE SEED, in large quantities Also in packages, at 25 cents, 50 cents, and \$1 each, prepaid by mail. **R. L. ALLEN,** 189 Water-st., New-York.

NEW NORTHERN CHINESE SUGAR CANE SEED.

(SORGHUM SACCHARATUM.)

JUST RECEIVED, A LARGE QUAN- tity, pure and genuine, from the original source, and for sale at \$1 per pound, and in packets prepaid by mail, at 25 and 50 cents each. Two pounds required to seed an acre.

J. M. THORBURN & CO., No. 15 John-street, New-York

VEGETABLE,
FLOWER,
FIELD,
FRUIT and
TREE SEEDS,
of the most approved sorts and best qualities, at wholesale or retail.

"CHINESE SUGAR CANE AND SUGAR MAKING."

NOW READY, AND SENT FREE OF POSTAGE FOR 25 CENTS, and for 3 cents additional, enough seed to plant two square rods. **C. M. SAXTON & CO.,** Agricultural Book Publishers, 140 Fulton-street, New-York.

CHINESE POTATO (DIOSCOREA BATA- TATAS)—Seed Tubers, \$1 50 per dozen; Roots end Cuttings, \$3 per dozen, or \$20 per 100 [delivered to express]—9,000 CHINESE SUGAR CANE SEEDS, \$1 25. [Sent post-paid by mail.] JAPAN PEAS, \$1 package. **EDWIN HENRY,** Rushing, L. I.

ENGLISH BREEDING STOCK.

SOUTH DOWN EWES, &c., DURHAMS, DEVONS, &c., CLEVELAND STALLIONS, &c., selected in England on commission, and exported to America by **THOMAS BETTS & CO.,** No. 14 Canning Place, Liverpool. Mr. BETTS having received several orders for Stock, will leave for England on the 16th of April, to attend several large sales. The prices of all kinds of Stock, and the expenses to America, also references to gentlemen for whom they have imported Stock, can be had at their Agents, **J. M. MILLER,** 81 Maiden Lane, New-York City.

LONE STAR.

LONE STAR—THE CELEBRATED Trotting Stallion LONE STAR will stand the coming season until the 5th of August, at the "Slierman Place," in the town of Suffield, Connecticut, about fourteen miles from Hartford, Connecticut, and ten miles from Springfield, Massachusetts. After that time, he will stand at Glen's Falls, New-York, until the 15th of October. Lone Star is as good a stock horse as old Black Hawk, and for style and beauty cannot be beat by any horse in the United States. Specimens of live stock can be seen at the stable where he stands. Terms \$30 for the season; \$40 to insure. Good keeping for horses coming from a distance. For further particulars apply to **WILLIAM J. MALLORY,** Suffield, Connecticut.

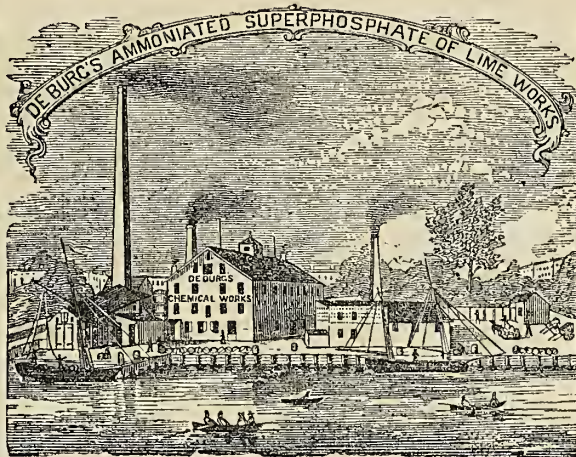
PIGS FOR SALE.—TWELVE PAIRS of the Improved Berkshire Breed, this stock having taken the first premium at the two Annual Fairs of this State. Also a very fine large-sized Boar, eleven months old. **JOHN B. EDGAR,** Rahway, N. J., March, 1857.

GANSE'S PATENT HAND CULTIVATOR,

FOR TENDING ONIONS, CARROTS, &c. as soon as the row can be seen. No other tool can compare with it. See Certificates in the Agriculturist for March. Retail price, \$6. For sale by **JOHN GANSE,** Manufacturer, 134 Thompson-street. And by **R. L. ALLEN,** 189 Water-street; and **H. F. DIBBLEE,** 100 Murray-street.

DE BURG'S NO. 1 AMMONIATED SUPERPHOSPHATE.

WARRANTED GENUINE.



BEWARE OF unscrupulous experimenters and imitators of the above now acknowledged reliable Fertilizer.

The Subscriber tenders his sincere thanks for the liberal support he has received from the Agricultural community for the past six years, and further assures his patrons no exertions shall be wanted on his part to merit their continued support, by supplying them with a uniform article.

Perhaps one of the best proofs of the value of his compound, is the greatly increased demand, unprecedented in the history of Fertilizers, and not equalled by Guano itself. As there are a large number of Superphosphates in market, for the value of which he would not like to be responsible, he earnestly requests all purchasing, to be careful to get the genuine article from himself, or his accredited agents, to whom he holds himself responsible for its good character.

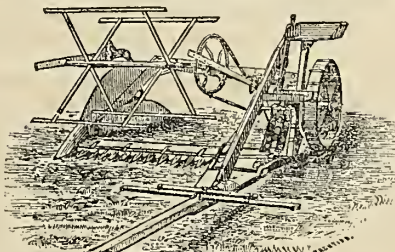
The increasing demand for this favorite Fertilizer still continues. Six years scrupulous trial, on all soils, and in all States, places its success, as a Fertilizer, beyond all problem. Analysis and testimonials will be forwarded, on application to the Subscriber.

C. B. DE BURG, Four blocks South of Peck Slip Ferry, WILLIAMSBURG, L. I., New-York.

ALLEN'S IMPROVED MOWER, AND MOWER AND REAPER—the best in America. A large assortment of the most approved Agricultural and Horticultural implements, of good quality and at low prices, For sale by **R. L. ALLEN,** 189 and 191 Water-st., New-York.

MANNY'S UNRIVALLED MOWER, AND COMBINED MOWER AND REAPER.

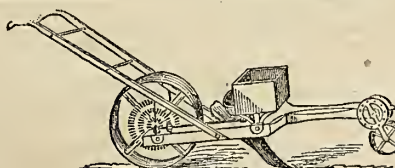
THESE JUSTLY CELEBRATED MA- CHINES, with the latest Improvements, are now ready for the harvest of 1857. Farmers who want a well-ried and thoroughly reliable MOWER and REAPER, one that has proved itself the best in all public and private trials, and has the approval of over eighteen thousand farmers, will purchase the MANNY MACHINE. It is undeniably the only Machine of the kind yet invented that has fully met the wants of the farmers. It is light, easily managed, strong, durable—adjustable and free from side draft. Has a Reel, without which no MOWER or REAPER is perfect—will not clog in any kind of grass. Can be worked by either horses or oxen. Has a Lever at the side of the driver's seat, by which the Knife can be raised instantly to pass obstructions, always ready to move from field to field on its own wheels—works well on any ground free from obstructions, and in all kinds of fine grass where nearly all other MOWERS fail. Can in one minute be changed from MOWER to REAPER, and is warranted to cut grass or grain at the rate of one acre per hour as well as can be done with a scythe or cradle. **JACOB ELLISON,** 290 Pearl st., New York, General Agent for the sale of these Machines.



MANNY'S CELEBRATED MOWER.

FOR THE NEW-ENGLAND STATES.

THE SUBSCRIBERS WOULD CALL attention to the MANNY MOWER, and MOWER and REAPER, with the late Improvements, built expressly for the NEW-ENGLAND STATES. It is the best arranged and most perfect constructed Machine of its kind ever offered to the farmer, and will meet the wants of all wishing to purchase a WELL-TRIED and RELIABLE MOWER, and which in six years trial has proved itself the very best. Circulars with testimonials forwarded free on application. Price \$110 cash, delivered at Depot, Worcester. Manufactured and for sale by **JOHN P. ADRIANCE & CO.,** Worcester, Mass.



DICKEY'S IMPROVED

PATENT CORN PLANTER.

I AM NOW MANUFACTURING THIS invaluable implement, which plants and covers the corn with no more labor than is usually spent in marking out the ground. It is unsurpassed as a planter of Beans, Peas, Sorghum and other similar seeds. I am also ready to treat with implement makers and dealers for rights to manufacture. For sale wholesale and retail. For description, terms, &c., address **JOHN OUTRAM,** Elmira, N. Y.

PERUVIAN GUANO,

In large or small quantities. **R. L. ALLEN,** 189 Water-street, New-York.

Beware of adulterated or damp GUANO, and of all other Fertilizers that can be mixed or depreciated without detection. The demand for Artificial and Commercial Fertilizers is now so large in the United States, that it is becoming a great object to adulterate them. This has been done to so large an extent in England, as to have called for the most stringent measures for the exposure of rascality and the protection of farmers.

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MANIPULATED GUANO—SUPER- PHOSPHATE OF LIME, BONE DUST, POUURETTE, &c. For sale by **GRIFFING BROTHER & CO.,** 60 Courtlandt-st., New-York.

PERUVIAN GUANO—THE BEST quality of Peruvian Guano, with Government weight and brand on each bag, by the cargo, or in smaller quantities, at the lowest price to be had in the market.

SUPERPHOSPHATE OF LIME. Being agent for the most extensive manufacturers, I can supply a first rate article, at the lowest manufacturers' prices. **BONE DUST,** coarse and fine ground, also savings end filings. **POURETTE and TAFEU** by the barrel. **PLASTER,** &c. &c. &c.

This warehouse is the largest depot in the United States for the various kinds of Fertilizers, all of which are guaranteed of the most reliable quality. Agricultural and Horticultural Implements, Field and Garden Seeds, a large assortment of all the improved kinds. **R. L. ALLEN,** 189 Water-st., New-York.

TO FARMERS AND GARDENERS.

THE SUBSCRIBERS OFFER FOR sale 40,000 Barrels of their

NEW AND IMPROVED POUURETTE, Manufactured from the night soil of New-York city, in lots to suit purchasers. This article (greatly improved within the last two years) has been in the market for eighteen years, and still defies competition as a manure for Corn and Garden Vegetables, being cheaper, more powerful than any other, and at the same time free from disagreeable odor. Two barrels (\$3 worth) will manure an acre of corn in the hill, will save two thirds in labor, will cause it to come up quicker, grow faster, ripen earlier, and will bring a larger crop on poor ground than any other fertilizer, and is also a preventive of the cut worm; also, it does not injure the seed to be put in contact with it. The L. M. Co. point to their long standing reputation, and the large capital (\$100,000), invested in their business, as a guarantee that the article they make shall always be of such quality as to command a ready sale. Price, delivered in the city free of charge and other expense:

One barrel.....	\$2 00
Two barrels.....	3 50
Five barrels.....	8 00
Six barrels.....	9 50

And at the rate of \$1 50 per barrel for any quantity over six barrels.

A Pamphlet, containing every information, will be sent (FREE) to any one applying for the same. Our address is **THE LODI MANUFACTURING CO.,** Office 60 Courtlandt st., New-York.

THERMOMETERS, BAROMETERS, &c.

of reliable quality and various descriptions, among which are those particularly suited for Horticultural purposes, which register the coldest and warmest degree of temperature during the 24 hours, in the absence of the observer. For sale by **D. EGGERT & SON,** 239 Pearl-st.

RUSSIA OR BASS MATS, GUNNY

BAGS, TWINES, &c., suitable for Nursery purposes, for sale in lots to suit, by **D. W. MANWARING,** Importer, 248 Front-street, New-York.

WILLARD FELT, No. 14 Maiden-lane,

Manufacturer of Blank Books, and Importer and Dealer in PAPER and STATIONERY of every description. Particular attention paid to orders.

MARKET REVIEW, WEATHER NOTES, &c.

AMERICAN AGRICULTURIST OFFICE, New-York, March 27, 1857.

The resumption of regular communication with the interior by railway, the opening of the Hudson River for the season, and the receipt of very unfavorable news from Europe, have seriously depressed our market for Breadstuffs. The demand has been moderate—mainly for home use—shippers evincing very little disposition to purchase. With accumulating supplies on hand, and a lack of confidence in the future, owners have shown much eagerness to sell, and have accepted decidedly lower rates for the leading articles. Towards the close of the month, there is less stock pressing on the market, and as the demand is reviving, prices are regaining firmness and buoyancy. Cotton is actively sought after and is still on the advance. Our available supply equals 85,850 bales, against 63,916 bales same time last year. Provisions are in good request and with reduced supplies in market, better prices are obtainable for most kinds. Groceries are attracting increased attention, yet they are not remarkably dearer. Hay is more freely offered at much lower prices, but the demand is tame, partly for shipment, but chiefly for local use. Hemp is dull and somewhat nominal. Hops are in lively request at firmer rates. Grass seeds are scarce and quiet, being held higher. Rice was actively sought after at materially improved prices, in the early part of the month. It is now rather inactive, yet stiffly held. Tallow is dull and drooping. Tobacco is in very moderate supply and fair request at full rates. Wool is in demand and is firm. The available supplies are limited. The new tariff will favor large importations, but the demand for Wool in Europe at prices relatively above our currency, it is thought, will draw away from our markets much of what we might otherwise secure. Hence, while some buyers look for easier terms, factors, generally, anticipate the maintenance of prevailing rates. Other commodities are essentially unchanged in demand and value.

We annex a comparative list of the closing prices of the principal agricultural products, last month and this, showing the fluctuations since our previous issue:

Table with columns for Feb. 26 and March 26, listing various agricultural products like Flour, Wheat, Corn, etc., with their respective prices.

The subjoined tabular statement presents summaries of the total receipts of the leading kinds of Breadstuffs, by railroad, river and coastwise, and of the total sales, here, for twenty-four business days, ending to-day, as well as of the exports from the port of New-York for the same period:

Table showing Receipts, Sales, and Exports for Wheat Flour, Wheat, Corn, Rye, and Barley.

These summaries enable us to make the following comparison of the receipts and sales:

Table comparing Receipts and Sales for the total 24 days this month and the total 25 days last month.

They also afford the following comparison of the exports, from the port of New-York, for twenty-five business days last month, and twenty-four business days, this month:

Table comparing exports of Flour, Wheat, Corn, and Rye for last month and this month.

The following is a comparative statement of the stock of Breadstuffs at Detroit, Michigan:

Table showing stock of Wheat flour, Wheat, Corn, and Oats at Detroit for March 1856 and March 1857.

There was in store at Chicago, Ill., March 21, 37,000 bbls. Flour, 730,000 bushels Wheat, 150,000 bushels Corn and 144,000 bushels Oats. At Milwaukee, Wis., 56,000 bbls. Flour, and 593,000 bushels Wheat. At Kenosha, between two and three hundred thousand bushels Wheat, and at Racine, about the same quantity. It is reported that half the last Wheat crop of Wisconsin, is not yet marketed, while the quantity in Illinois, is much larger than is generally stated.

From the most reliable sources we present a statement of stocks of Clover seed in all hands, inclusive of dealers, at the dates and places named below:

Table showing stocks of Clover seed in New-York, Baltimore, Philadelphia, Boston, Albany, and Buffalo.

Say 20,000 bushels, a quantity totally inadequate to meet the wants of the farmers for Spring sowing. Some considerable supplies may yet be looked for from the interior of this State. A moderate quantity may come from Pennsylvania and the West. But if there are no large lots kept back by speculators, we certainly can not afford to part with much, if any more seed for export. If later on, which now seems probable, England or the Continent should require further supplies from us, the chances seem to be they may be obtained only at extravagant prices.

The final report of the Western hog slaughtering, this and last season, affords the following:

COMPARATIVE RECAPITULATION.

Table comparing the number of hogs slaughtered in various states (Ohio, Kentucky, Indiana, Illinois, Missouri, Iowa, Tennessee, Wisconsin) for 1855-6 and 1856-7.

Grand Total 2,489,502 1,818,468 Showing a total deficiency this season, as compared with the preceding season, of 671,034 Hogs, or about 27 per cent.

CATTLE MARKET.—The receipts for four weeks ending March 25, were 12,427, being about 500 less than for the preceding four weeks. They were for the week ending March 4, 2,030; March 11, 4,016; March 18, 3,372; March 25, 2,009. Prices varied as follows, March 4th, 12c. @ 11c. advance; 11th, 11c. decline; 18th, 11c. decline, and 25th, 11c. further decline, making a total of about 11c. for the month. Wednesday, March 25, prices ranged: Premium cattle, 12c. @ 12 1/2c.; First quality, 10 1/2c. @ 11c. Medium quality, 9 1/2c. @ 10c. Poor quality, 9c. @ 9 1/2c.; Poorest quality, 8 1/2c. @ 9c. General selling price, 9 1/2c. @ 10 1/2c.; Average of all sales about 10c.

Receipts of sheep during the same time were 25,310 or a falling off of about 800 for the month. Prices now range at 12c. @ 14 1/2c. P. b. dressed weight; the dressed weight being estimated at about one-half of the live weight, and a little more than this for superior fat animals.

THE WEATHER—until within a week or so was scarcely warmer than during a part of February. Now, however, there are indications of an early Spring, and planting early potatoes on Long-Island, and in New-Jersey, is going on quite briskly in some places. Our condensed Weather Notes read; Feb. 27, clear; 28, hail and 2 inches snow; March 1, cloudy; 2, heavy snow and wind blocking up roads, snow nearly one foot on level; 3, cold, 6 A. M.; 4, clear, warm; 5, do., with rain at night; 6, heavy fog, clear P. M., and ground open again; 7, clear, cool, heavy snow at the west, 8, cold, clear; 9, cool, 20°, three inches snow; 10, clear, cool; 11, mild, light snow at night; 12, 13, clear, and warmer; 14, three inches snow; 15, mild; 16, a little rain; 17, clear, mild; 18, cloudy; 19, rainy, A. M., clear P. M.; 20, cloudy, mild; 21, 22, 23, clear, mild; 24, heavy and light rain; 25, 26, 27, clear, with chilly winds. It will thus be seen that "fitful March," has been true to its character.

WHEN MAILED.

This (April) number will all be mailed before the close of March. All further delays are to be charged to the Post-Office Department.

CONTENTS FOR APRIL, 1857.

Table listing contents for April 1857, including Barley, Bee Culture, Breeds, Potatoes, Cattle, etc., with page numbers.

American Agriculturist.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; IN-DOOR and OUT DOOR work around the DWELLING; care of DOMESTIC ANIMALS, &c. &c.

The matter of each number will be prepared with reference to the month in which it is dated, and will be promptly and regularly mailed at least one day before the beginning of the month.

A full CALENDAR OF OPERATIONS for the season is given every month.

Over FIVE HUNDRED PLAIN, PRACTICAL, instructive articles are given every year.

The Editors and Contributors are all PRACTICAL, WORKING MEN.

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In addition to the above rates: Postage to Canada 12 cents; to Europe 24 cents; Delivered in New-York City 12 cents.

Postage anywhere in the United States and Territories must be paid by the subscriber, and is only six cents a year, if paid quarterly in advance, at the office where received.

Subscriptions can begin Jan. 1st, July 1st, or at other dates, if especially desired.

The paper is considered paid for wherever it is sent, and will be promptly discontinued when the time for which it is ordered expires.

All business and other communications should be addressed to the Editor and Proprietor,

ORANGE JUDD, No. 191 Water-st., New-York.

Personal Letters, or those for the Editor only should be marked Private.

Persons forwarding money by mail may consider the arrival of the paper an acknowledgment of the receipt of the money.

Printed by R. Cunningham, 191 Water-st.

AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture.

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON.

ORANGE JUDD, A. M.,
EDITOR AND PROPRIETOR.

ESTABLISHED IN 1842.

{ \$1.00 PER ANNUM, IN ADVANCE.
SINGLE NUMBERS 10 CENTS.

VOL. XVI.—No. 5.]

NEW-YORK, MAY, 1857.

[NEW SERIES—No. 124.

Business Office at No. 191 Water-st.
For Contents, Terms, &c. see page 120.
Notes to Correspondents, pages 115-6.
For Business Notices, see page 116.
For Advertisements, see pages 117-9.

WORK FOR THE MONTH.

Now the bright morning star, day's harbinger,
Comes dancing from the East, and leads with her
The Flowery May, who from her green lap throws
The yellow cowslip and the pale primrose.
Hail bounteous May! that dost inspire
Birth and youth and warm desire;
Woods and groves are of thy blessing.
Thus we salute thee with our early song,
And welcome thee and wish thee long.

MILTON.

The blind bard of rural England, never
orgot the fair landscapes, the green fields
and wooded vales, of his native land.
Though he might see no more the light of
the sun nor "human face divine," these,
and all the fair sights of Nature lived in his
memory, and inspired his muse. He felt
the touch of Spring thrilling through his
soul, as joyously as if he could see the
bright morning star, and the cowslips, and
the primroses of which he sung.

Few are so stolid as not to feel a new
sensation glowing in their hearts, when the
winds from the sweet South begin to blow,
when there is first a Summer glow in the air,
and the fields put on their robes of green,
and flowers come forth like gems, upon the
verdant turf. The spirit of the advancing
season is infectious, and cold must be the
heart that is not moved by the blithe song of
birds, and the breath of flowers, that now
comes wafted upon every breeze. The
long doubtful struggle between Winter and
Summer is at length ended, and there is, on
every hand, indications of earnest work.

Our Springs are always long and lingering,
and the complaint of backwardness, cold, and
wet, made this season have probably been
made every season since the settlement of
the country. The prevailing winds are
from the North-west and the North-east,
and we have the breath of Winter chilling
us long after the spell of Winter is broken.
There is however a difference in the Sea-
sons, owing to causes that we do not yet
perfectly understand. Backward as the
Springs are, some are more so than others.
Though the past winter was uncommonly
severe, and we had cold more intense than
has visited us for forty years, the Spring
opened earlier than usual. A warm term
commenced the last of February, carrying
off most of the snow and opening the
Hudson and Connecticut rivers for naviga-
tion. In some places in the vallies of these

rivers, the thermometer rose to 80 degrees,
and the buds of fruit trees rapidly swelled.
We have not heard however, that any inju-
ry was done to the fruit trees, by this un-
seasonable weather. The first crocus made
its appearance in our garden, just a week
sooner than last year, and we had our first
cutting of Asparagus under glass on the
20th of March, some ten days earlier than
last year.

This long reign of the cold and wet, in
Spring, concentrates the work of seed time
into a very few days. Every thing is hur-
ried now, and the whole success of the Sea-
son hinges upon our activity in this month.
Many have had their fields so wet that they
were not able to plow during the month of
April, and they now have their manures
to spread and plow in, before they can seed
down their land, and put in their hoed crops.
This shortness of planting time has been
foreseen by the experienced, and skilled
cultivator, and he has every thing in readi-
ness for the emergency. His manures were
put upon the ground in heaps ready for
spreading, before the frost left it, and while
the carting was good. He has seen the folly
of worrying cattle, with a heavy load of
manure through muddy fields, just as the
frost was breaking up. His tools are all in
complete order, and his cattle are sleek and
healthy, and ready for labor. He has pro-
vided help enough for this busy season, and
every crop goes into the soil, in the best
time, and in the best condition.

DRAINING

is a lesson taught by our late Springs and
we are happy to say a lesson that is begin-
ning to be learned, by our best cultivators.
They have discovered that soil, well under-
drained is in good condition for planting, full
a week earlier than the same kind of
land in its natural condition. The drains
take off the surplus water, as soon as the
frost releases its hold, and of course, the
temperature is at once raised over the whole
surface. It receives at once the full bene-
fit of the sun's rays, and may be planted two
weeks earlier than undrained land. Some
quite intelligent farmers who have never
seen the operation of underdraining, suspect
that our teachings upon this subject are pure-
ly theoretical, drawn from the practice of
English husbandry. It is true that under-
draining has been more extensively practi-
ced in England, than in this country, and
that its utility there is placed beyond con-
troversy. But though underdraining is yet
in its infancy in this country, it is by no
means a mere theory. It is well attested

by many who have tried it on a large scale.

We will give as an example a trial of drain-
ing upon a part of our garden, embracing
nearly a half acre, where stone was used as
the draining material, because they were
most convenient for our purpose. This
was formerly a swamp producing nothing
but sour grapes and briers. It is now the
best part of our garden, growing the various
kinds of fruit trees and vegetables in the
greatest luxuriance. A part of it is appro-
priated to asparagus, and we have noticed
for two seasons, that the shoots upon the
drained soil are full a week earlier, than
those of a bed in another part of the garden,
though it stands upon high ground, and has
the benefit of the morning sun. We have
no doubt the drainage makes this difference.

Now if the farmer had faith in underdrain-
ing, and would try it upon a part of his
fields, he would be able to begin his planting
very much earlier, and would thus
have a longer seed time. Its effect would
be, not only to improve the quality of the
soil by taking off its excess of water, and its
acids, but to raise its temperature and to
prolong the season, which is a very impor-
tant matter with many crops. Two weeks
added to the growing of corn before the
frost strikes it, would add greatly to its
value—in many localities in the northern
States. Underdraining, once commenced,
will work conviction upon the most sceptical.

SEEDING LAND TO GRASS

Many will be sowing grass seed with their
Spring wheat and oats the first of this month.
The sooner these crops are in, the better.
It is a common error to sow too little grass
seed. Timothy, red top, blue top, and clover
are expensive, and most farmers purchase
rather than raise their own seeds. Where
the seed is not thick enough, the ground
either lies idle, or is occupied by weeds.
This is very poor husbandry, after carry-
ing a field through a course of crops and
manuring thoroughly to prepare it for grass.
Be generous with the grass seed, if you
wish good crops of hay in after years. One
bushel of red top or furze; twelve quarts of
herds grass, and six pounds of clover are
none too much for an acre. We have used
this Spring a half bushel of herds grass seed
to the acre, and though this seed is very
expensive, we consider the money well laid
out. The difference in the crop, for four or
five years will more than pay the extra price
of the seed. A variety of grass seeds is
better than any one kind. The cattle will
eat it better, and it stocks the land more
perfectly.

GRAFTING

if not already done, should be finished the first of this month. This process has been so often described in our pages, and is so well treated in the manuals on fruit trees, that we need not describe it here. It is so simple, that an intelligent boy of a dozen summers can successfully perform it, with a very little practice. And the boys should be early taught to graft, and to interest themselves in fruit growing. There is nothing better to bind them to the old homestead, or if they leave it for other callings, to make them fruit growers in the small gardens of our cities and villages. Almost every long cultivated farm, has its old apple and perry trees, that only need new tops to make them very valuable. They are still vigorous, but produce nothing but small sour fruit. These trees, if judiciously grafted will yield fruit much sooner than young trees, and in a few years, will bring large returns. A sound well grown apple tree near home is worth fifty dollars, for the purpose of grafting. It can be made to pay the interest on a much larger sum for a generation to come. We know of a large seedling pear, standing near our premises that we would gladly give a hundred for, if it could be set down uninjured in our fruit yard. In a few years it could be made to produce bushels of fine Bartlett pears, which always bear a high price in the market.

THE GARDEN.

Let not the pressure of full work tempt you to overlook the garden. A man who works hard should be well fed with the best vegetables and fruits, the earth affords. The feeders of the world should patronize their own art, and spread a good table, upon the same principle that a tailor wears good broadcloth, in the most fashionable style. It is his best advertisement. A farmer who raises fine vegetables in his garden, and knows their value by use—will soon carry them to market, and lead others to try them. If he cultivate squashes, cabbage, cauliflowers, tomatoes, salsify, and egg-plant, he will not be long in finding a market for them, in the neighboring village or city. Men who labor want a variety of food, and the farmer's garden should abound with every thing good to eat, from the asparagus bed due on the first of May, to the tap roots that are harvested with the frosts of Autumn. The moral influence of a garden upon the household is most happy, and we have rarely met with a vicious child, whose early years were familiar with his father's vegetable beds, and his mother's flower border. The garden comes next after the church, and the school house, and is a worthy co operator with those institutions. It beautifies home wonderfully, and kindles emotions which never die out of the heart.

Now is the time to put in the seeds, and provide the raw material for the numerous tempting dishes, which every good housewife knows how to prepare, from parsley, and celery, from salsify and egg-plant, from okra and beans, from cucumbers, melons and squashes, from the tap roots, and from corn. Improve the seed time of these plants, and rejoice in the harvest.

CALENDAR OF OPERATIONS.

MAY, 1857.

[We put down here a summary of various operations, many of them very common ones, it is true, but a simple catalogue like this will often suggest a piece of work that would otherwise be forgotten. The Calendar is adapted to the latitudes of 41° to 42°. A little allowance must be made for each degree of latitude—later north—earlier south. This table will be made out anew every month and adapted to the season of each year.

EXPLANATIONS.—The letters f. m. l. refer to first, middle, and last of the month.

Doubling the letters thus: ff., mm., or ll., gives emphasis to the particular period indicated.]

FARM.

We suppose every farmer is not only "read up," but has fully matured his plans for the season, and is now vigorously prosecuting them. This is a month of toil, during which the husbandman casts his seed into the earth, and with confidence awaits the springing blades. It is of the first importance that the soil be properly prepared, by manuring and plowing, and that good seed be carefully put in. Inattention to these matters will often cause a failure of the crop no matter how thorough the after treatment or how favorable the weather.

Barley—Sow ff. m.

Beans—Plant by themselves, or among corn f. mm. l.

Beets—Sow for market and feeding stock, m. ll.; for early table use ff. if not already done.

Broom Corn—Plant f. m. See page 57 March No.

Carrots—Sow ff. m. on deep, well manured ground.

Cattle—Do not turn out to pasture too early—Partial dry food with their early grazing is best.

Cellars—If not already attended to, then at once cleanse from decaying vegetables and other impurities, scrubbing and white-washing the walls. Ventilate freely. Health as well as comfort demands immediate thorough attention to this point. Remember the National Hotel, at Washington, and the great numbers still sick owing to the impure drains and cellars there.

Clover should have been sown last month upon fields of winter grain. It may still be sown with spring grain and for plowing under. At the far North, it may yet be sown upon frozen fields in the morning.

Corn—Plant f. mm. l. for field crops, and drill or sow broadcast for soiling-ll. Prove your seed if any doubts exist as to its germination. Forty-eight hours, under favorable circumstances will test its vitality.

Draining—Continue as opportunity offers. Read articles on, and see Work for the Month in this number.

Fences—Complete any unfinished, and see that all are in good order, especially around grain fields "A stitch in time saves nine."

Flax—Sow ff. m.

Harrow all grounds to be sown or planted until they are of a fine tilth

Hemp—Sow f. m.

Horses and Mules—Take good and kind care of working teams, graining with Indian meal and oats now that their labor is heavy. If turned out to pasture at any time, give them free access to a warm stable or shed. Working animals can "catch cold" and have the "consumption" as well as human beings.

Lucern—Sow ff. m. This crop should be more extensively raised.

Manures—Collect and use ff. m. exposing as little as may be to sun and air; evaporation takes place rapidly in warm weather. If large heaps are exposed in the fields cover them with plaster, muck, or earth from head lands.

Meadows—Keep fenced, and do not allow cattle to trample them. Top dress poorer fields with any thoroughly rotted manure, or with well pulverized sifted guano, or fine bones. Plaster is generally good, and almost always so upon clover.

Millett—Sow f. m. l.

Oats—Sow ff. m. if not done in April.

Pastures—Do not rely upon these too early, but give full or partial dry feed at present.

Peas—Sow f. m. scalding them to destroy bugs, by a brief soaking in hot water.

Plowing—Turn up the soil a little deeper than at the last plowing.

Potatoes—Plant ff. m. if not already in. Early planting is much preferable. Select varieties not subject to decay, even if not worth as much by a few cents per bushel. Remember that "like produces like." See remarks in April number, middle of first column on page 78.

Pumpkins—Plant f. mm. l. among corn, potatoes and in patches by themselves. Raise a good supply for cattle and hogs. No crop pays better especially on new land.

Rye—Sow Spring varieties ff. m.

Salt Meadows—Ditch ff. m. l. using the mud for composting next fall.

Sheep—Give extra feed to ewes with lamb. Wash m. ll. Do not shear too early. After shearing be sure to give them access to warm dry sheds at night and on cool or damp days. This is important.

Sorghum—Plant ff. m. and l. according to directions given in last number.

Swine—Attend to the increase of, both at this season and in Autumn among those to be wintered over. Cleanse yards and pens using charcoal dust or plaster. Cart in muck, scrapings, or head lands as soon as the manure is all out. Remember that it costs but little more to get a litter of good pigs than a poor one, therefore secure the service of good males as well as females. Do not let sows run in the street to every wild, ill-bred male that chances in their way.

Timothy—Sow ff. with Spring grain or clover.

Tobacco—Plant out f. m. See chapter on culture, page 54 of March number.

Tools of the most approved varieties are doubtless purchased and in daily use. House them at night.

Turnips—Sow flat and stone varieties ff. m. for early use. A few Russias may be sown ll. for fall use.

Wheat—In the more Northern, or cold localities, where not already done, sow Spring varieties ff. m. and keep cattle from Winter fields.

ORCHARD AND NURSERY.

The preparation of the ground and completing of orchard planting, renders the present a busy month. Transplanting not already done should be performed as early in May as possible, and that too in the most thorough manner. Dig large holes and spread out the roots and fibres, filling in carefully with rich mold or compost mixed with earth.

Apples—Plant standards and stocks in Orchard and Nursery ff. m.

Budded Trees—Remove suckers ll. from trees budded last season.

Cherries—Plant trees ff. if not already done. Put out stocks at once.

Evergreens—Transplant f. mm. l. We regard the time of their first growth for the season as the best period to plant evergreens. Keep the roots from the sun during the operation. See articles on Evergreen Trees and Shrubs.

Grafting—May be done ff. on some late growing varieties, provided the scions were cut at the proper season and have been carefully preserved.

Hoeing of Nursery rows—Attend to f. m. l.

Insects—Destroy ff. m. l. especially caterpillars in the first stages of their growth. See article on "Borers."

Much newly planted trees in orchard and along fences to keep the ground moist and free from weeds.

Orchards—We advise keeping these plowed for the most part. Young orchards can be laid down to grass provided a good space around each tree is kept dug up. Hoed crops, especially potatoes and turnips, are very suitable for an orchard, if a good manure dressing is yearly applied. Buckwheat is perhaps, the best grain crop. Do not plow too closely to the trees, although no grass, weeds, or grain should grow about the trunks. Lime or ashes applied in moderate quantities about each tree will essentially benefit it.

Ornamental Trees—Complete planting the different varieties as early in the month as possible.

Peaches, Apricots and Nectarines—Finish planting ff. any that were neglected last month. Shorten in or train, as espalier ff.

Pears—Plant ff. both standards for field, and dwarfs for garden culture. Select as dwarfs only those varieties known to succeed well upon the quince. We do not recommend planting many of these even in a garden, preferring the pear on its own roots, with very few exceptions. Dwarfs are very good to set in alternate rows with standards, the former come sooner to fruit and ten to one will be out of the way by the time their room is wanted.

Plow or use cultivator between nursery rows, and turn up the sod of old orchards.

Plums—Plant ff. if not completed. Cut out all warty or diseased branches.

Pruning should be restricted this month to removing diseased or mutilated branches, and shortening-in and shaping the heads of standards.

Quinces—Plant ff. m.

Seed Beds of Trees—Weed and hoe f. m. l.

Shrubs—Plant ff. especially early blooming varieties that were not put in last month.

Transplanting of trees and shrubbery both deciduous and ornamental—Continue ff. m. and evergreens mm. l.

Vines—Read article on grapes.

Wall Trees—Train and regulate.

KITCHEN AND FRUIT GARDEN.

May is emphatically a busy month in the garden, even though a portion of the labors were in April. Seeds of nearly all kinds require planting during this month—many of them in the early part of it. The after labor being the same, it is very important that the ground be thoroughly prepared by deep plowing or trenching, and heavy manuring, that good seed be used, and that it be put in the best manner. In no department does extra care and labor pay better than in vegetable gardening.

Artichokes—Plant ff., if not already done. Clean former plantings m. l.

Asparagus—Old beds are doubtless uncovered and forked over. New beds may be made and seed sown ff. Cutting will commence m. or even earlier in favorable localities.

Balm—Plant ff.

Basil—Plant out ff. Seed may also be sown ff. if omitted last month.

Beans—Read article on starting Limas. Set poles for runners at the time of planting.

Beets—Sow ff. for early, and ll. for winter use. Radish seed may be mixed with beet seed or in intermediate drills. The former will be large enough to pull before injuring the latter. Weed and thin those sowed last month.

Blackberries—Plant New-Rochelle (Lawton), ff. If already in so much the better. We planted April 14.

Borage—Sow ff.

Borecole—Sow ff. Plant out and hoe m.

Broccoli—Sow ff. Plant and prick out m.

Burnet—Sow and plant for salad f. m.

Cabbages—Sow ff. if not done last month. Plant out ff. for early, and ll. for late. Hoe young plants often.

Capsicum—Plant ff. m.

Cardoon and Caraway—Sow ff. m.

Carrots—Sow ff. on deeply plowed soil. They may be sown m. but the earlier the better. Hoe and thin m. l.

Cauliflower—Sow f. for Autumn and Winter use. Plant out ff. and remove hand glasses from those planted last month.

Celery—Sow ff. Plant out for early f. to m. watering freely.

Chives—Plant ff.

Cold Frames—Finish planting from these ff.

Coriander—Sow f. m.

Corn—Plant s sweet varieties ff. m. l. for succession.

Cress—Sow ff.

Cucumbers—Plant ff. m. Transplant at the same time from hot-beds. Guard against the striped bug by using boxes covered with millinet. Tobacco dust or snuff, soot and guano, dusted over the young plants are partial preventives of the ravages of these insects. See article.

Currants—Plant ff if delayed till this time. Cuttings may be put in if they have been kept from growing. See article.

Dill—Sow ff.

Economise grounds by planting the small early vegetables, such as radishes, spinach, lettuce, cress, &c., between crops which afterwards cover the ground. Radishes may be sown among beets, in the hills of vines, or potatoes, or any of the above may be sown contiguous to cucumbers or squashes which will cover the ground after the early crops are removed. Late corn, turnips and cabbages may also be planted between the rows of early potatoes.

Egg Plants—Set out f. mm. Sow seed ff. although it is better to obtain plants if you have not produced them in a hot bed.

Garlic—Plant ff.

Grapes—Read article on, Omit pruning this month save rubbing off superfluous shoots. Fasten to trellises or stakes at once if left till now.

Hot Beds—Plant from ff. m., airing each day until all the plants are removed.

Leeks—Sow ff.

Lettuce—Sow and plant out ff. m. l. for succession. See that worthless kinds are not sown.

Marjoram may still be sown if not done in April.

Melons—Plant and remove from hot bed f. m. Protect from bugs as recommended for cucumbers. Plant away from other vines if seed is wanted.

Mushroom Beds—Make ff.

Mustard and Nasturtiums—Sow ff. m.

Okra—Sow ff. m. Weed early sowings m. ll.

Parsley—Sow and plant ff. Read April No., page 74.

Parsneps—Sow ff. on deeply trenched soil. See page 86 last month. Also article in this number.

Peas—Sow ff. m. l. for succession. Hoe and stick early sowings f. m.

Potatoes—Plant ff.

Radishes—Sow f. m. l.

Raspberries—These were probably planted last month and buried canes lifted. If not, there should be no delay now. Stake plants as soon as set or uncovered.

Rhubarb—Set roots and fork in manure around, ff. if not done already.

Sage and Savory—Sow ff.

Salsify or Vegetable Oyster—Sow ff. Hoe and thin out, m. l. This is the best vegetable we raise. Ever since the ground opened we have been able to dig fine roots and prepare a dish superior to anything else in the vegetable line at this season. It is grown just as easily, and in the same manner as carrots. Get a paper of seed and try it. At the proper season we will give a mode of cooking it that will make a dish better than live oysters—for us.

Seeds—Set out the various winter vegetables such as turnips, cabbages, beets, onions, parsneps, carrots, salsify,

&c., to provide a supply of pure seeds for next year's planting. Keep those of the same species widely apart, to prevent hybridizing.

Spinach—Sow ff. m. l. Thin out, leaving a few for seed. Strawberries may yet be planted ff. Weed old beds.

Tomatoes—Sow ff. and plant out for early at same time, and others during the month for late ripening.

Turnips—Sow early varieties ff. A few ruta bagas or Swedes may be sown f. m. l. but the main crop should not be put in during this month.

Weeds—Keep down in the early part of the season if you wish light work during the Summer, and heavy returns at harvest.

FLOWER GARDEN AND LAWN.

Special attention will be required here, during this month. Grounds that were not manured and trenched, or deeply spaded last month will need this operation at once. Seeds of most varieties of annuals and biennials should be sown by the middle of the month. Many plants may now be brought from the parlors, from the Green and Hot-houses and from cold frames and pits. Transplanting also, of trees, shrubs and herbaceous plants requires to be done in the early part of the month.

Annuals—Remove from hot-beds and houses to open borders f. m. Sow seeds ff.

Asters—Sow ff. m.

Awnings—Continue to use in midday as shelter for Hyacinths and other choice bulbs now in bloom. The flowering season may be prolonged some weeks by so doing. See remarks upon "bulbs."

Balsams—Sow and plant ff. m.

Biennials—Sow and transplant ff.

Borders—Prepare and sow or plant ff. m. putting the taller growing varieties in the background.

Box Edging—Plant and put in slips ff. m. the sooner the better.

Bulbs—Beds of these made last fall in accordance with the directions then given will now make a splendid show and they are not deficient in "perfumery" especially when "kissed by the morning dew." A few of the more early, such as the crocus and snow-drop, have passed away, but the sweet scented Hyacinth, unassuming Iris, gaudy Tulip and majestic Crown Imperial are now in their glory, and that they may long continue thus, shield them from the hot sun by an awning of canvas or muslin secured to stakes three feet above the surface of the beds. This covering should be removed at night and during cloudy weather. Plant autumn blooming varieties, and from hand glasses ff.

Carnations—Plant out and sow seed ff. Remove side buds and support flower stalks by tying to neat stakes. Shade from midday sun to prolong their blooms.

Cinerarias—Plant in borders mm. l.

Dahlias—Plant from Green-house and boxes f. m. If roots have not been started, put them in boxes of earth ff. keeping in warm situations.

Dianthus and Delphinium—Sow and plant ff. m.

Dielytra Spectabilis—Plant ff. m. This is one of the most beautiful of new hardy flowering shrubs and is worthy of general introduction.

Evergreens—Plant trees and shrubs at any time during the month. The middle of May is perhaps the best time. Keep the roots from the sun while moving, and if earth adheres to them, so much the better. See article.

Fuchsias—Bring from the houses, to open borders m. l. Keep them well staked.

Geraniums—Plant on borders and in masses m. l.

Grass Edgings—Shear m. ll. and keep edges pared smooth.

Gravel Walks—Renew or give extra coating to old ones. Keep clear from weeds using the scuffle hoe which will not displace the gravel.

Hibiscus—Sow ff. m.

Hoe frequently, especially among tender annuals in the first stages of their growth.

Honeysuckles—Plant and regulate upon trellises ff.

Lawn—Sow bone sawings or fine dust, guano, &c. Keep clean and well rolled.

Lilies—Plant White, Tiger, Japan, &c., ff. if not already done.

Lupines—Sow ff. m. l.

Mignonette—Sow ff. m. l.

Mulch—Continue around newly planted trees especially evergreens.

Ornamental Trees and Shrubs—Plant ff. m. if not completed in April.

Perennials—Sow, put in slips and transplant ff.

Petunias—Sow and plant f. mm.

Phloxes—Sow and plant ff. m.

Polyanthus—Part if not done last month.

Portulaccas—Sow ff. m.

Rocket—Sow and part roots ff. m.

Roses—Plant and train ff. Bud ll.

Stakes—Provide a good supply for use as needed.

Tulips, Hyacinths and Crown Imperials—See bulbs.

Turf—Lay for edging, and on bare spots ff. if neglected till now.

Verbenas—Plant ff. m. on borders or in masses.

Water—Give in dry weather to plants newly removed. Do it thoroughly when necessary without repeating it too often.

Zinnia—Sow ff. m.

GREEN AND HOT HOUSE.

As fire heat is now partially suspended, and the plants more or less changed from one house to the other, we put the operations of the two houses together. Especial care should now be taken to admit

Air freely every mild day, avoiding a chilly atmosphere on tender plants. Fogs are also to be excluded.

Abutilon—Carry to borders m. l.

Bulbs—Plant out those done blooming in pots and hand glasses.

Cactuses—Examine for insects and syringe freely.

Callas—Continue to water freely while in bud and flower.

Camellias—Syringe freely, during the evening placing in airy situations.

Cinerarias—Water freely giving liquid manure.

Cuttings of woody shrubs and plants may still be put in.

Dahlias—Plant out those started in houses m. ll.

Earth in Pots—Stir and remove moss from them f. m. l.

Figs—Water and remove laterals, ff. m.

Fumigations—Give in houses affected with insects.

Hardy Plants and shrubs—Carry to flower borders m. l. It is better to turn most of them carefully from the pots or tubs. Do not expose tender plants too early by removing from the high temperature of a hot-house to the open ground. Better harden off in green house or cold greenhouses.

Inarching—Perform on free growing woody plants, especially oranges and lemons. Bind the parts firmly together with bass matting.

Insects—Watch the approach of as warm weather comes on. Destroy with tobacco fumes, syringe, sulphur, &c. A few destroyed now may crush colonies in embryo. See mixture recommended here last month.

Layering—Continue ff. m.

Leaves—Clean before taking to open grounds.

Oranges, Lemons and Myrtles—Plant out in summer situations m. l.

Potted Plants—Shift to larger size as is necessary ff. m. Pruning—Omit mostly this season.

Water—Give frequently to strong growing plants. Avoid its use upon vines perfecting their fruit.

THE APAIRY.

[Mr. M. QUINBY, of St. Johnsville, N. Y., (Author of Mysteries of Bee-Keeping Explained), send us the following Notes for the Month. By the way, in a private note, he mentions the fact that he has managed over 500 swarms in three lots, and lost but two stocks the past winter!—Ed.]

A little timely care during this month, (May,) in destroying the moth-worms, may save the Bee-keeper much loss and vexation before the end of summer. Several generations of them are produced in the course of one season. One destroyed now, is as beneficial as hundreds if not thousands in Autumn. The perfect moth, is not often found at this season, but her offspring, the worms may be. They, or the eggs from which they are hatched, have been saved from freezing to death by the warmth of the bees in the hive. Most of them will have obtained their growth among the combs, and been compelled by the bees to leave for safe quarters to spin their cocoons. Most of them will get on the bottom board during the night, and become chilled, where they may be found in the morning. To brush them out and mash their heads, will take but a few moments. There will be some under nearly every stock—even the best—but there is no cause for alarm unless the colony is extremely small. This is not the season of greatest mischief. July and August, is the time for extensive operations. When the bees become numerous, the hive may be raised half an inch. Now put under it, narrow shingles or elders split in halves with the pith removed, these will afford a safe retreat from the bees where they will spin their cocoons. These should be taken out once a week at least, and the worms destroyed, before the moth is matured.

Good stocks, in many sections, will begin to throw off swarms the last of this month. If a supply of empty hives are not already on hand to receive them, they should be at once provided. To wait until a swarm issues, and then have to prepare a hive, is bad economy. Bees will tolerate but little neglect just at this time—a good clean hive immediately offered, is accepted thankfully in ninety-nine times in a hundred, whereas an hour's delay, might put them so much out of sorts, that they would be satisfied with nothing. I risk but little in predicting that any Bee-keeper, who depends on making or preparing his hives as needed, will not have to do it many years. Negligence here, argues negligence in other points. If he succeeds it must indeed be "luck."

RURAL SURROUNDINGS.

NUMBER III.—THE SHEEP.

Our small or suburban farmers rarely keep sheep. There are some difficulties in the way, we admit. Still, they can be kept, and profitably too, with a little pains. Any dry land with sweet pasturage is suitable for the sheep, and no animal better repays the care and food which is devoted to them. Their wool is valuable always, as a commercial article, if not for household consumption, and no flesh is more palatable, healthful, nutritious and timely at the country table, from the lamb at two months to the mature wether at two years of age. The sheep is a timid creature, fearful of everything, even to the smallest dog, or a cat, and wherever kept, they should be secured from annoyance or fright from anything that may worry or destroy them. Their main enemy in compact, thickly-settled neighborhoods, is the dog. Heedless people are very apt to keep a worthless cur or two running wild about their premises, and the creatures, in their nocturnal excursions, are quite apt to light on the first sheep-fold at hand, and commit a most reckless slaughter. Such outrages will ever be the case until these lawless persons learn better than to keep the nuisances, or the laws are made stringent enough to punish the dog-owners in a round penalty for the ravages they commit. Even, however, with such pests in the neighborhood, on a well-regulated farm of a few acres only, sheep may be kept to advantage.

We once knew a retired sea-captain who had some twenty acres of land, on which he resided, immediately adjoining the principal street of a very considerable New-England town, and many years kept a small flock of beautiful Merinos in his paddocks, Winter and Summer. They were always in sight from the street while in pasture, and grazed as securely and peacefully just over the stout stone wall which separated them from the continual passers-by, as if they were so many cows. They had a close shed where they could be fastened in every night, and no accident occurred in the many years that we knew them. They were a hobby of the liberal and wealthy gentleman who kept them, and in fine weather he was every day more or less among them. They were gentle as so many chickens, and would leap and play around him, and follow his footsteps wherever he chose to lead them. Being choice specimens of their race, they were attractive to all sheep-admirers who passed, and the country farmers were always ready to buy his surplus rams and ewes to add to and improve their own flocks at home; and thus, while indulging his hobby, regardless of profit, the sheep really paid him more than their expenses. We mention this instance to show that sheep may be kept almost anywhere with land enough and a little care.

As utility and economy, however, are to be connected with pretty much all of the animal kind kept on our country places, in selecting our sheep, we should keep those varieties only which are best suited to the

uses of the table. The common long-legged gaunt-bodied things which many farmers keep are worthless for the purposes we are discussing. They have little good flesh on their bones, their wool is of small value, and they are so restless and mischievous in jumping that they are little less than a nuisance anywhere. They certainly have no business on a well-kept place, and if nothing better than such brutes can be had, we would have no sheep at all. Yet there is no difficulty in getting sheep suitable for table uses and of quiet habits, easy to keep, and beautiful objects to look upon. These are of the Long-wooled varieties, passing under the denominations of Cotswold, Leicester, Lincoln, or other foreign local names; or the Middle-wooled, commonly called Southdown. The long-wooled varieties are chiefly of one distinctive breed, with large bodies, compactly built, taking on heavy carcasses of flesh of extraordinary fatness, with a heavy fleece of long and rather coarse wool. They are clean-limbed, very white, with small, clean faces, quiet and gentle in habit, prolific in breeding, and take on flesh, when well fed, with ease and rapidity. Their flesh, too, is choice and delicate, but in full-grown animals, too much inclined to fat for stomachs any way delicate. The lambs, however, are superb, large, fat and delicious, and fit for the table at an early age. To those who like a large, strong sheep, they are the thing for your place.

The Southdown is a smaller animal, with a compact, well-knit body, dark brown, almost black face and legs, of beautiful proportions, with finer-grained, well-marbled flesh, and every way the *beau-ideal* of the mutton sheep. They are not so white as the long-wooled, but equally handsome and attractive in their appearance. They will live on closer pasture, and thrive, even where the others will barely live. They also mature rather earlier, are quite as prolific, and gentle in their habits. Our people, in reality, know little or nothing of the excellence of Southdown mutton. Its steaks and "saddles" are equal to the best venison, furnishing, moreover, its own gravies, which the venison, in most cases, does not; and for a "chop," nothing can equal it. The most sensitive stomach can digest Southdown mutton, and nothing is more nutritious. We Americans, in fact, know little about mutton as an *economical* food any way. The poor, flabby, stringy stuff mostly sold in our markets as mutton, in carcasses of thirty to fifty pounds weight, and by which we judge the general quality of mutton, is not the article furnished by the Cotswold or the Southdown, but little of which we get at all, while they who understand what *true* mutton is, and keep it on their grounds, or know where to procure it, enjoy its luxury in the highest perfection; and all country dwellers, with a little pains, can cultivate their own small flocks if they choose. It is not necessary here to go into elaborate directions for the rearing or care of sheep. Those who keep them can obtain all such information in detail by purchasing almost any of the popular works on sheep-culture at the bookstores,

or consulting some agricultural work in their own libraries.

We have treated the sheep in our remarks solely as an economical creature; but they have a value of another kind to many who enjoy the pleasures and recreations of country life, quite as attractive in their pleasant companionship, and as objects of ornament to the grounds. In a wide lawn or park, where the trees are grown beyond their reach, nothing lends a greater charm to a picture of innocence and repose than a group of sheep quietly reposing under a shade, or nibbling their food miscellaneously over the grounds. They amuse the children, and a pet lamb, next to the "pony," is the *summum-bonum* of a little boy's or girl's attachment. No creature is so confiding, so fearless, so companionable, as a pet lamb, and nothing half so innocent. Almost every year we have, either by accident or casualty, one or more of them, and when there are no young children to share their gambols, they follow our herdsman, Charley, and his little black and tan terriers, all over the fields, as he looks after his stock or other duties on the farm. We have frequent occasions to cross a considerable body of water adjoining the place, and as the herdsman often plays the *barsman* in the Summer season, not only the dogs, but a lamb or two leap into the boat as it leaves the shore, and take their ride across the water and back in good companionship and great apparent enjoyment. They lie down together, drink their milk from the same dish, and are good friends everywhere, until arriving at the stage of shephood in the Autumn, the "cassets" are turned out with the flock, among which they soon find themselves at home, but ever retaining their confiding love towards their early protectors. Add the sheep to your other farm companions, if you can.

ROOT CROPS.

Are our readers fully sensible of the value of root crops? Are they mindful, *just now*, to have the ground well prepared for them, the seed well selected and properly sowed? Potatoes will undoubtedly be planted in abundance; but there may be a neglect of carrots, turnips, beets, parsneps, vegetable oysters, &c. Remember how valuable many of these roots are as Winter fodder for horses and cattle. They may be kept quite fresh through the Winter, by burying them in heaps out of doors, or by storing them in the cellar, in sand. We prefer, however, to leave a portion of our parsneps and vegetable oysters in the open ground till Spring: when newly dug from the garden, they have a freshness and sweetness which those housed in the cellar do not possess.

Now is the time to sow the seeds of all these crops, except turnips, which may profitably wait a few weeks. Sow thickly, in drills, thinning out the plants as they grow, leaving them plenty of room to develop themselves on every side. No success need be expected, unless the ground is made rich, and kept free from weeds throughout the Summer. No weed should be allowed to get more than an inch high; after that, the labor of exterminating them is almost doubled.

MECHANICAL PREPARATION OF THE SOIL.

NO. II.—ABOUT DRAINING.

As we have before stated, next to getting a soil into the requisite state of fineness, that it may furnish a suitable bed or medium for the roots of plants, we consider *under-draining* the most important auxiliary to success in soil culture. We hope to make this matter so plain as to carry conviction to the minds of all who read these articles. But we shall be met at the outset, as well as further on, with the objection that "it costs too much." Let us therefore first inquire whether it will be likely to *pay* to expend ten, fifteen, or even thirty dollars upon a single acre, for it will in many cases cost the latter sum to *thoroughly* drain a single acre.

Take as an illustration a farm midway between the East and the West, and worth in the market, say only \$40 per acre. We will suppose an acre of this land with a slight manuring produces now an average crop of forty bushels of corn, worth one year with another, say 50 cents per bushel. The account with two acres will stand about thus :

Interest on two acres, at 7 per cent.....	\$5 60
Taxes.....	40
Planting, harrowing and manuring, at \$6 per acre, 12 00	
Planting, hoeing and harvesting, at \$6 per acre.....	12 00
Total.....	\$30 00
80 bushels of corn at 50 cents.....	40 00

Profits on two acres.....	\$10 00
Net profit per acre.....	5 00

Now let us suppose that one acre be sold at the market price (\$40), and the whole proceeds be added to the remaining acre, in such improvements as draining, subsoiling, &c. ; and suppose that by the improvement thus made the average yield of corn is raised to only 60 bushels per acre. How will the account then stand? As the land will be worked even more easily after the improvements, none of the expenses per acre for cultivation will be increased, except a trifling addition for harvesting a larger crop. The account will then stand :

Interest on <i>one</i> acre, costing \$80, at 7 per cent.....	\$5 60
Taxes.....	40
Plowing, harrowing and manuring, as before.....	6 00
Planting, hoeing and harvesting.....	6 00
Total.....	\$18 00
60 bushels of corn at 50 cents.....	30 00

Net profit per acre.....	\$12 00
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Here is one-fifth, or 20 per cent. more profit on *one* acre than on *two* above. This is below the true estimate. There are very few soils in the country on which the average yield cannot be doubled by such an outlay in judicious improvements. According to these figures, 50 acres of the improved land will yield a profit of \$600, while it would require 120 acres of the unimproved land to yield the same amount of profit. We say nothing of the increased cost of fencing the larger surface, nor of the additional care, &c., required.

"But," says the incredulous reader, "this looks very well upon paper; to attain this end in *practice* is another thing." Well, our aim is to show that just such improvements are not only practicable, but that to engage in them is just what three out of four of al

the farmers in our country should do, and must do, if they will attain the highest success, or, in other words, cultivate their land to the greatest *profit*. And we will here remark, that precisely the same principles apply to small areas as to large—to gardens as well as to farms. But we ask no one to take a mere *ipse dixit*—a bare assertion. Let us look carefully and candidly into the whys, the wherefores, and the modes of doubling the product of our farms without increasing the after cost per acre for cultivation.

By a *thoroughly under-drained* plot of land, we understand one that has a set of open channels passing through it, from 2½ to 4 feet below its surface. These channels admit water into them throughout their whole length, and have outlets and a fall sufficient to carry off whatever runs into them. The channels or drains are placed near enough together, say 2 to 4 rods apart, to carry off all surplus water at any time falling upon the soil, or running into it from higher lands, and thus they keep the whole soil comparatively dry as low down as their bed (2½ to 4 feet from the surface). And, lastly, the lower ends of them are always open, so that when they are not filled with running water, the air can enter freely, and passing along them, circulate up through the soil, and escape from the surface.

Without stopping to inquire how to secure such channels or under-drains, of the best kind, and in the most economical manner, let us first inquire what will be their natural, obvious effect upon a soil thus fitted out.

1st. The soil will be kept free from standing water, and will be ready to work much earlier in Spring. When the frost is out of the ground, the surplus water will at once be drawn off, and the plow can be started. As the work can begin a week or two earlier in the Spring, it will be less crowded, and less man and team force will be required to till a given number of acres. With the absence of water, the soil will be warmed much sooner, and a week at least can be gained in planting corn, for example, which is very often enough to save it from an Autumnal frost, even if its growth were not more rapid on such a soil. The average gain of time upon at least three-fourths of farms, even those considered dry, will be equivalent to moving them from one hundred to two hundred miles southward.

2nd. Winter crops, wheat, rye and grass, growing on a soil thus kept comparatively dry, will not be killed by frosts of Winter. Why? Dry solid bodies, like soils, do not greatly contract and expand in freezing, while water, or wet soils, do expand greatly. As we have stated previously, eight quarts of water, or eight quarts of wet soil, will expand to nine quarts in freezing solid, while the expansion of the same amount of a merely moist soil is but slightly perceptible. It is this expansion and contraction of wet soils that breaks and tears the fibrous roots of wheat and grass, and Winter-kills them, or heaves them out of the ground. On the thoroughly drained soil, as described above, such effects will not be experienced.

3d. A thoroughly drained soil, with the water channels open for the circulation of air, is actually damper, or more moist, in the hot, dry weather of Summer, than those not so prepared. Why? For the same reason that the surface of a tumbler of cold water is covered with dampness on a dry, hot day. The air always contains some watery vapor, which is condensed upon a body colder than the air itself. This is the case with the tumbler of cold water. Now, as the soil is always colder than the air, in a dry, hot day, the air passing into the drains, and up through the soil, will give up its watery vapor and moisture to the cooler soil, just as it does to the cool surface of the tumbler. The water from this source alone is sufficient to sustain crops through the severest drouth. There will always be a free upward circulation of air from the drains. The sun's rays heating the surface of the earth, will produce an upward current of air, just as surely as fire in a stove or chimney will cause the heated, rarified, lighter air to ascend, producing a "draught." In the drains, if they be deep, the air will not only ascend through the soil immediately above them, but it will spread out on each side, as the upward current is produced at every point of the surface, and thus draws the air from the drains laterally through every point. We thus see that a thoroughly drained soil is not only dryer in wet weather, but is actually moister during a drouth.

4th. We showed, in a previous article, (see page 54, middle column,) that most soils, not exposed freely to air, contain more or less of poisonous materials, in the presence of which plant roots will not flourish. The clearing out of water and the admission of air in its place, in an underdrained soil, is a direct method of destroying these poisons.

5th. In a soil thus freed from stagnant water, and from poisons, and rendered warmer, the roots of plants will go down much deeper, and spread wider, and not only be out of reach of drouth, but also, from their greater extent, draw a much larger amount of nutriment.

6th. Manures are rendered more effective. When the lower soil is filled with standing water, much of that falling in the form of rain and snow runs off over and through the surface, carrying away large quantities of manure and vegetable matter. Witness the dark-colored streams during, and after a rain or thaw. Those muddy brooks and rivulets are loaded with rich manures. The Mississippi River annually carries and deposits in the Gulf near its mouth, a small continent of dark, rich mud, gathered from the feeding rivulets all over the valley of the stream. Our brooks, and rills, and ditches, exhibit the same thing on a smaller scale. But in an underdrained field water sinks down into the under channels, and flows out in a clear, limpid stream, like spring water. The soil strains or leaches out the fertilizing materials, and holds them stored for the growing crops.

We will not stop to discuss the effects upon climate and health produced by thus draining a farm, or a number of them lying

adjacent. Would not agues and chills and kindred diseases be far less frequent?

Other reasons for underdraining might be given, and will be noticed incidentally; but are not those named above enough to show *why* a field that will average but 40 bushels of corn per acre should average 60 bushels after simply draining it thoroughly? Is it not reasonable to suppose there would be even a greater difference than this?

Taking it for granted that this fact is established, we shall hereafter discuss two points, viz.:

1st. *What soils need draining?*

2d. *What are the best modes of performing this operation in different localities?*

CARROTS AS A FIELD CROP.

We have frequently adverted to this crop in our past volumes, and with every passing year of our experience with it, in the field, and in the root-bin, we are more fully convinced that the carrot is to be *the root* of the American farm. We are not certain but it will yet fill the place here which the turnip fills in England for stock feeding. The turnip sometimes does admirably with us, but can never be so uniformly successful in our hot, dry climate, as under the moist skies of Britain. The carrot can be planted earlier, and get a good start before the Summer drouth comes on. The yield, judging from our experiments, is fully equal to the yield of turnips under the same treatment, and the root is more highly relished by stock, and, we think, more nutritious. They are admirably adapted to feeding horses, and they keep much better in the Spring than turnips. We have frequently had them in good condition for feeding as late as June.

PREPARATION OF THE SOIL.

If large crops of twelve or fifteen hundred bushels to the acre are to be expected, good land must be taken, and it must be made still richer by large applications of manure. The wants of the plant are a foot of surface soil thoroughly disintegrated, and enriched with fine compost or well-rotted manure. Whatever be the depth of the plowing, the tilth of the soil should be very fine, and after the harrow has been used, we think it pays to go over the whole with a garden rake, removing all clods and small cobble stones. In smooth, sandy soils, this might not be necessary. But it facilitates after-culture very much to have a smooth surface. The seed should be put in with a seed-sower, and we have always found it advantageous to drill in manure with the seed. For this purpose we have used a good quality of dissolved unburned bones. The distance of the drills must depend somewhat upon the mode of culture you mean to pursue. If you rely upon the horse and cultivator, they should not be nearer than twenty inches. If you depend upon the scuffle-hoe for removing weeds, as we do, they may be planted fourteen inches apart.

CULTIVATION.

This should commence as soon as the plants are up. Push the hoe as near to the rows as possible, cutting up all weeds, and loosening the soil. When the plants are

two or three inches high, thin out, leaving them from four to six inches apart. It is a common error to neglect weeding and thinning too long. The hoe should be kept busy during the Summer, and the whole strength of the soil go to the support of the roots you mean to harvest.

VARIETIES.

We have cultivated both the white Belgian and the yellow Altringham, and have not been able to discover the advantage claimed for the Belgian, that it yields a larger crop. It grows more out of the ground, but has never grown as large as the Altringham with us, and the quality is certainly inferior. We decidedly prefer the long yellow carrot, and this with a careful selection of seed for a series of years will give crops large enough to satisfy any reasonable man. Do not fail to sow a piece of carrots the last of May.

POTATOES.

EXPERIMENTS WITH SIX VARIETIES.

Last season we made a careful comparative trial of the following six kinds of Potatoes, viz: Ash Leaf Kidney, Prince Albert, Early June, Sovereign, Mammoth Nutmeg and Dykeman's. Only a small plot was taken with a view to make everything as uniform as possible. The seed potatoes of each kind were selected as uniform in size, number of eyes, &c., as was practicable, and the soil all alike, and manured equally with a little bone sawings in the hill, and a subsequent uniform watering from the reservoir of house slops described in June last. Every care was taken to treat all exactly alike. They were planted May 12th, and dug October 2nd. Six hills of each kind carefully weighed gave the following result:

Ash Leaf Kidneys	12 lbs.	Sovereigns	9 1/2 lbs.
Prince Alberts	13 "	Mammoth Nutmegs	8 1/2 "
Early Junes	12 1/2 "	Dykeman's	10 "

The cooking qualities were tried soon after digging and the following notes made:

The Kidney's.—Small size, resembling the Lady Finger variety; yellow flesh; free from decay; boiled mealy, even to the smallest.

Prince Albert.—Egg shaped; smooth skin; white; cooked quickly and were white and mealy when done; entirely free from rot. The most satisfactory of the six kinds.

Early June.—Though planted too late these were doubtless too long in the ground and showed considerable decay; in size fair to large; though boiled quickly, they appeared water soaked.

Sovereign.—Size above medium; round; yellowish white; affected with dry rot somewhat; boiled mealy; flavor pleasant; quite yellow after boiling.

Mammoth Nutmeg.—This variety, though lauded so highly by those having a monopoly of the seed at first, proved the most unsatisfactory of the six tried, both on account of small yield and rapid decay particularly after digging; medium size; nearly round in form; yellowish white color; the few sound tubers cooked and ate well.

Dykeman.—Medium size; round form; white with pink eyes; cooked tolerably mealy and of fair flavor.

On the whole we give the decided preference to the Prince Albert, and should plant this but from the present difficulty of obtaining seed.

TOMATO CULTURE.

The cultivation of this vegetable is comparatively recent in this country. Thirty years ago it was hardly known, except in the gardens of the curious, and among those seafaring people whose business had led them to the West Indies, and to South American ports. It has been much longer established in France and Spain, and was introduced into those countries from their South American possessions, where it originated. Thousands of acres are cultivated to supply the demands of our large cities, and so abundant is the yield of the vines, that in their season they are among the cheapest of vegetables. They are also made into catsup, pickles, sliced and dried for Winter use, and lately it has become common to seal them up in cans, in which they preserve their flavor admirably, and can be had fresh and good the year round.

There are numerous varieties, of which the large smooth red is the most popular for market, and the Mammoth much the best flavor for family use. This we have raised several years, and have frequently had them two pounds in weight. The plant will perpetuate itself in the garden, unless pains are taken to destroy it. But this is a careless method of growing them, and they deteriorate in size and quality, unless the seeds of the best fruit are saved and planted.

They are commonly forced by planting single seeds in pots in February, and putting them out the last of May, already in blossom. The pot is then well filled with roots, and as none are broken in turning them out, they push along rapidly, and give fruit in July. These potted plants are to be had of the market gardeners at this season, and a dozen of them will supply a common family.

For the main crop for pickling and for preserving in cans, seeds sown the first of this month will mature sufficiently early. When the plants are put out about four feet apart, they should have frequent hoeings, and the leaders should be headed in, to facilitate the forming and ripening of the fruit. Most of the blossoms are put out within two feet of the roots, and the shortening-in of the plant forces its energies to fruit-bearing. The fruit will be larger under this treatment, and will be some days earlier.

Some cultivators lay brush down for the vines to run on, and others tie them up upon a lattice. We think both these methods retard the ripening. The heat of the earth in August is of great service in maturing this fruit. The early plants should have a southern exposure under a fence or wall.

This crop when it first comes to market, bears a high price, selling for four and five dollars a basket. It soon falls to a dollar or less, and not unfrequently becomes a drug at any price. The enormous quantities that are now preserved for Winter use in cans, and manufactured into catsups and pickles, cannot fail to affect prices, and make them a paying crop.

HEDGES.

A good hedge is a good thing. Men have thought so for several thousand years. A great while ago, "a certain householder planted a vineyard, and hedged it round about." A long while ago, Homer tells us that "when Ulysses returned from Troy to his father Laertes, after many years absence, the good old man had sent his servants into the woods to gather young thorns for forming hedges, and while occupying himself in preparing the ground to receive them, his son asked him, "Why, being now so far advanced in years, he would put himself to the fatigue of planting that which he was never likely to enjoy?" Laertes, taking him for a stranger, gently replied: "I plant against my son Ulysses comes home." Hedges form an important feature in every ancient rural scene which painting or poetry has transmitted to us. The literature of England, especially, abounds in allusions to them.

We think hedges are as desirable now as they ever were. They have not yet been planted as extensively in this country as in Europe, partly because of the abundance and cheapness of fencing timber, and partly because hedge plants have not yet been found exactly suited to our soil and varying climate. But the time has now come when fencing material, both of wood and stone, is expensive, and in some parts of the country difficult to obtain. This is the case especially on the Western prairies. Wooden fences, moreover, are continually decaying, and require no little time and money to keep them in repair. For gardens and orchards, they are not a sufficient protection against thieving boys, pigs and poultry. They are objectionable, also, on the score of taste, while nothing is so beautiful for its purpose, as a verdant, well-kept hedge. "When a hedge is once grown," says Downing, "the small trouble of annual trimming costs not a whit more (does it not cost less!) than the average expense of repairs on a wooden fence, and then it is an everlasting fence, its freshness and verdure are renewed with every vernal return of the flower and leaf." Supposing our readers somewhat interested in the subject, we will now give a few notes on the plants principally used for hedges in this country.

HAWTHORN.—It was but natural that we should cherish a strong preference for this plant, associated as it has always been with the farms and gardens of our father-land. It is, moreover, a beautiful shrub, grows rapidly and compactly, and is so well armed with thorns that it answers, in this respect, most purposes of a strong fence. A full-grown hedge can be formed with it in five years. When planted in good soil, not wet, and not very rich, it grows well for several seasons, and promises to make a good hedge. But very often, after the labor of five or six years has been expended on it, and it stands a smooth, verdant wall, the just pride of its owner, insects fall upon its leaves and branches, or the borer attacks its roots, and it is virtually destroyed. The entire hedge may not perish, but it dies out in sections, leaving unsightly gaps here and there, to be filled up with still more unsightly boards, rails, or dead brush. We know of a single township where the loss of hawthorn hedges by a sudden attack of insects was estimated to have been greater than if all the dwellings had been attacked by fire. Beautiful and excellent as this plant is in most respects, we fear it cannot be relied upon as a permanent, unailing fence.

NEWCASTLE, WASHINGTON, AND COCKSPUR THORNS.—These plants have been tried in various parts of

the country, and, in many places, are found to suffer less from the vicissitudes of the climate than the English Hawthorn. Yet the same radical defect attaches to them as to all plants of the same natural order (the apple, thorn, &c.), viz.: they are subject to assaults of the borer. Who among our readers will immortalize himself by devising some means of exterminating this pest?

BERBERRY.—This will make a tolerable hedge, if well-managed when young. It is hardly stubborn enough to turn cattle. Its tendency to sucker is an objection to it. The opinion, quite prevalent in some quarters, that it causes blight or mildew on grain crops growing near it, is groundless.

SIBERIAN CRAB.—This is a member of the apple family, and is often planted as a small ornamental tree, desirable both for its flowers and fruit. It is not a thorn tree, exactly, but when pruned, its branches become stiff and crabbed, so much so as to furnish a formidable resistance to the attacks of man or beast. It needs shearing only once in a year, and takes good care of itself the rest of the time. In the Spring, its flowers are quite ornamental, and in the Fall, its fruit is hardly less so.

CHEROKEE ROSE.—For the Southern States, this forms a good hedge. We have seen it when in full bloom, and shall not soon forget the splendid floral spectacle it presented, and the fragrance with which it filled the air. It is well equipped with sturdy thorns. Wo to the man or beast that attempts to get over or through a hedge formed of it! Unfortunately, it is too tender for Northern Winters.

HONEY LOCUST.—For a farm hedge, this will answer a good purpose. The principal objections to it are, that it grows too rampant, requires frequent pruning and splashing, and, at best, is coarse and straggling. For an outside barrier, where ornament is of no account, it is well worthy of trial.

OSAGE ORANGE.—Here, we have one of the most popular hedge-plants in America. It is clothed with glossy and beautiful foliage; it grows as freely as a willow, bears the shears well, and is armed with a regiment of thorns. It does not suffer from attacks of the borer or insects. It has been planted extensively at the West, and in most localities is said to answer every purpose of a farm-hedge. By many cultivators, it is feared that it will not prove sufficiently hardy for the Northern States. Above 40° or 41° North latitude, it is badly cut down in Winter. Being a native of Arkansas, this is not to be wondered at. On the other hand, it is contended that if the soil is well drained, the plant will prove hardy enough as far North as Vermont. What if the tops are a little frost-bitten, it does no harm, and only saves so much labor in the Spring pruning. Jack Frost works for nothing. Its friends are enthusiastic in its praise, declaring that, if well trimmed, it grows hardier every year, and that wherever the Isabella grape or the peach ripens, it will make the best hedge in the world: it is unrivalled in the density and stubbornness of its branches and thorns; the smallest bird cannot fly through it; horses, mules, cows, sheep, and unruly boys who wish an unbroken skin, are glad to keep on their own side of it. Our own opinion is, that it will prove a good hedge-plant for the Middle and Western States, at least in the milder portions of those States, but it cannot be relied upon for Northern latitudes.

PRIVET.—In this plant we have the material for making a very handsome screen. It grows easily from seeds or cuttings, is perfectly hardy, and free from insects. Its buds push out early in Spring, and its leaves hang on until mid-Winter, making it almost an evergreen. It lacks thorns, and therefore cannot be relied upon for an outside

fence. For ornamental purposes, to conceal wooden palings, or to divide gardens and pleasure grounds, it is very desirable.

BUCKTHORN.—Have we here a perfect hedge-plant for the Northern States? Some think so. That it is hardy, no one doubts. It grows in all kinds of soil; does not sucker; is not, to our knowledge, liable to insects or any kind of disease; grows rapidly, and yet needs clipping but once in a year, and it lives to a good old age. The only objection brought against it is, that it is not sufficiently thorny to turn cattle of every description. Indeed, it has very few thorns when young, but these increase with the age of the plant, and in proportion to the frequency of the shearing. The flavor of its leaves is so offensive to cattle, that they never wish to taste it a second time. Mice will not gnaw its bark. It grows under the shade and drip of trees better than most other hedge-plants.

EVERGREENS FOR HEDGES.—Our space will not permit us to speak in detail of these, nor of a few other deciduous hedge-plants sometimes used, such as the Beech, Hornbeam; Japan Quince, Prickly Ash, European Bramble, &c. There can be no more beautiful screen to divide ornamental grounds than the Hemlock; the Arbor Vitæ and Red Cedar are also excellent for the same purpose, but neither of them will prove a sufficient defence against cattle. If a thick row of these trees is strengthened by a wire fence on the exposed side, it will make a good protection. It is contended by some experienced hedge-growers from Northern Europe, that the Norway Spruce, planted two feet apart, and well sheared, will make as good a hedge as the Hawthorn. It is so used in Denmark. They are set out when young, one foot or eighteen inches apart, in single rows, and kept pruned to about five feet high, and they give perfect satisfaction. Why should not this plant have a fair trial in this country? It is now raised from seed, and imported in large quantities, and can be bought at a moderate price. If the American Holly were not so difficult to grow and manage, we should hope much from it as a hedge-plant. Its stiff and thorny leaves would make it impenetrable, and its beauty both of leaf and berry, in Winter as well as Summer, would recommend it to universal adoption. Experiments are now being tried with it in various parts of the country, and when the results are known, we shall hasten to chronicle them.

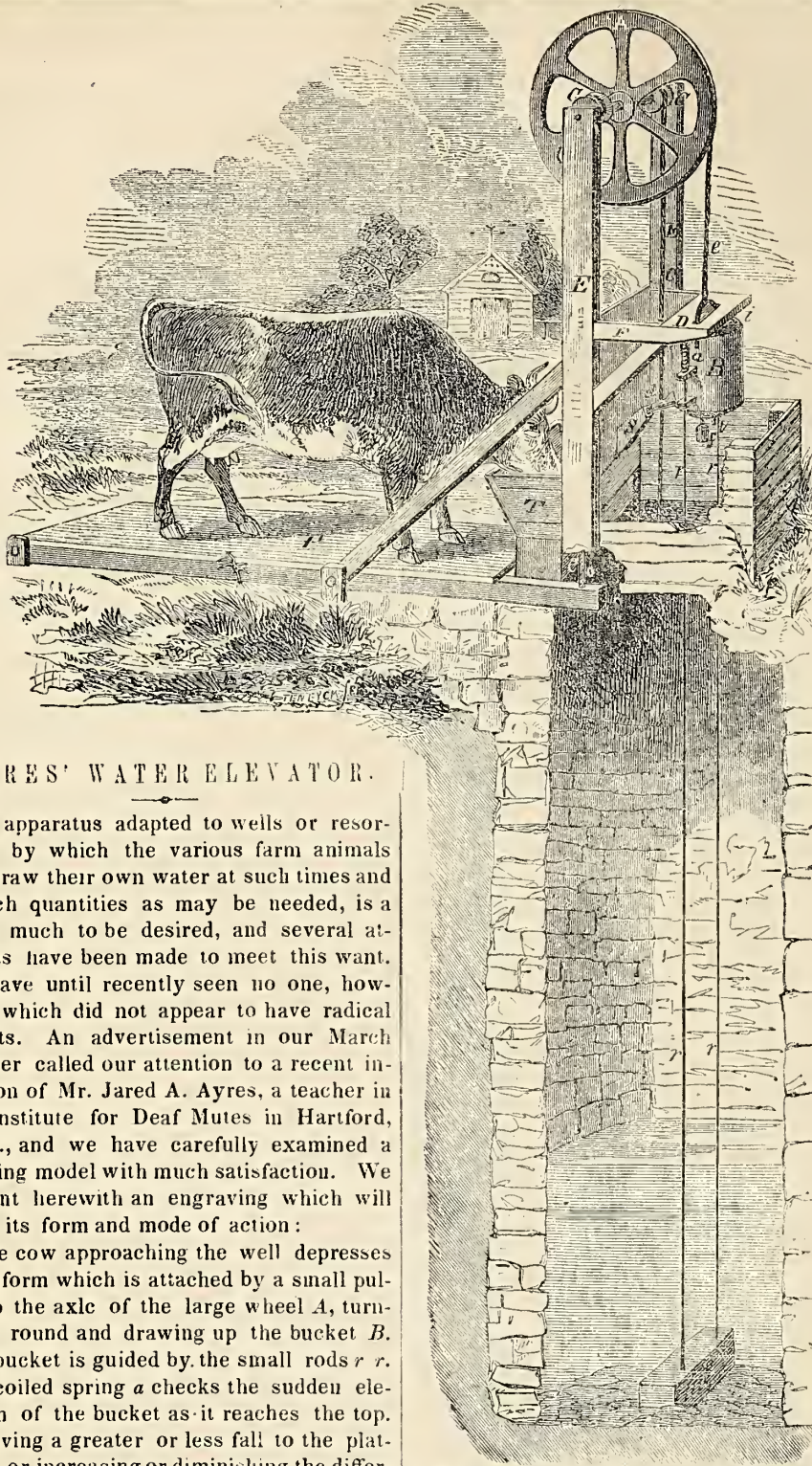
CLOVER SEED—PLASTER.

Mr. Henry Bidwell, of Ohio, writes:

On the 5th of last July, I cut 15 acres of grass—red clover, with a sprinkling of Timothy—gathering 43 two-horse wagon loads, which we estimated at a ton each. The ground is a moderately heavy loam, which was seeded with clover and timothy, upon Winter wheat, in the Spring of 1855, and pastured after harvest. Last Spring, (1856,) I sowed four bushels of Plaster of Paris to the acre, as a top-dressing. One strip through the centre of the field, a rod in width, was left unplastered. On this plot the clover was scarcely two-thirds as large as on the other portions. The hay was stacked by itself, the outside of the stack being finished off with straight Timothy hay. We have just sold the hay, by weight, at \$9 per ton of 2,000 pounds, and received \$364 50 for the 40½ tons, or \$24 30 per acre.

But I am not done with that field yet. The cattle were not allowed to run upon it, and in September I cut the after-math, or second-growth, for seed, and threshed out 53 bushels and three pecks of excellent clover seed, which we sold three weeks since for \$7 25 per bushel, or \$426, being equal to \$28 40 per acre, and making the total cash product \$52 70 per acre for one year. I value the clover straw left after threshing out the seed, as worth at least \$2 30 per acre, which gives a gross product of \$55 per acre. I estimate that \$10 per acre will cover the expense of hay-making, threshing the seed, &c., but, including the cost of the plaster sown, we will call it \$15 per acre, which leaves a net profit of \$40 per acre, equivalent to 10 per cent. on \$400. You can put this down as one answer to the oft-repeated inquiry "Will Farming Pay?"

P. S.—I should add that on the portion left unplastered, the deficiency in the yield of clover seed was still more marked than in the first hay cutting



AYRES' WATER ELEVATOR.

An apparatus adapted to wells or reservoirs, by which the various farm animals will draw their own water at such times and in such quantities as may be needed, is a thing much to be desired, and several attempts have been made to meet this want. We have until recently seen no one, however, which did not appear to have radical defects. An advertisement in our March number called our attention to a recent invention of Mr. Jared A. Ayres, a teacher in the Institute for Deaf Mutes in Hartford, Conn., and we have carefully examined a working model with much satisfaction. We present herewith an engraving which will show its form and mode of action:

The cow approaching the well depresses a platform which is attached by a small pulley to the axle of the large wheel *A*, turning it round and drawing up the bucket *B*. The bucket is guided by the small rods *r r*. The coiled spring *a* checks the sudden elevation of the bucket as it reaches the top. By giving a greater or less fall to the platform, or increasing or diminishing the difference between the large and small pulleys upon the same axle, the apparatus can be adapted to deep or shallow wells. A valve to the spout is opened by a little lever striking against the cross piece *D*. A valve in the bottom of the bucket admits the water from beneath as the bucket descends. One valuable peculiarity of this bucket is an arrangement by which the bucket is emptied of a part of its contents, proportioned to the weight of the animal pressing upon the platform, so that while a single sheep, for example, will raise say a quart, or two quarts of water, as may be desired, an animal weighing ten times as much will raise ten or twenty quarts. We have not space to note several other particulars, such as the arrangements to prevent any interference

from frost. We commend the apparatus to the attention of our readers. Further information and full particulars may be obtained by addressing the proprietor, Henry A. Dyer, Esq., at Hartford, Conn., as noted in our advertising columns.

ANOTHER JOB IN THE WHEAT FIELDS.

We are often tempted to head each page of our paper with the old-fashioned but expressive adage: "A stitch in time saves nine"—sometimes ninety nine. This morning (April 13), in a "country ramble," we had occasion to cross a wheat-field, and instinctively, or perhaps from force of early habit, we pulled up and carried with us nine separate bunches or roots of "cockle," as we have been accustomed to call it. (We for-

get its botanical name, and do not know that it is called by any other than cockle from Maine to Texas.) The delay necessary to take up these nine roots may have been two minutes. The whole time occupied in crossing the field and pulling the roots certainly did not exceed nine minutes. Query. Would not the proprietor of that field—who, by-the-way, assured us that it was "very clean of foul stuff"—find it time well laid out to send a man or boy over the whole wheat-plot to pull up *all* the cockle roots, which are very easily seen at this season? We are sure it would. We have followed the plan from boyhood. When less than twelve years old, one part of our Spring work was to go over twenty-five to fifty acres of wheat and pull up all the cockle. As we sowed clean seed, three to four acres a day was not considered a hard task. Is it not worth a month's work of a boy to clear fifty acres of this pest? But at the same time with the cockle pulling, we carried a two-inch chisel fitted with a long handle, with which we dug up all the red dock roots we could find, and also any stray thistles and mulleins that showed their heads. With the narrow blade, it is easy to take out the deep roots of these plants without greatly disturbing the adjacent wheat roots. Wheat-growers, try this cheap method of clearing your fields, and you will soon find a decided improvement in the marketable quality of your grain. Nothing lessens the value of wheat more than those black little seeds of the cockle plant. Two or three successive weedings of the above kind will nearly eradicate this pest. But a word for the boys. Pulling cockle, like pulling potato vines, is hard on the back, though it operates in time better than any "strengthening plaster." Make the work for the boys as light as may be, and make it attractive. Offer the boys a premium of twenty-five cents per acre for entirely eradicating this pest, and charge them six cents for each plant found growing at harvest time, and our word for it, you will find the work well and cheaply done. We speak from experience.

DEAR SUGARS.

Every one is cognizant of the fact that sweetening of all kinds is enormously dear, so much so as to become almost a luxury. A large dealer in rhubarb, or Pie-plant, informs us that he is preparing for greatly diminished sales this season, because people cannot afford to buy the necessary sweetening for this plant. Fortunately the season has been highly favorable for making maple sugar in most parts of the country, and it is estimated that double the average quantity has been manufactured this year. But even this will afford but a partial relief, and the prospects ahead are little better, as the severe frosts the past month have materially diminished the prospects of the sugar crop at the South. We can but regret that the new Chinese Sugar Cane plant has not had one season more of trial. Were we fully confident of its success, we should urge its immediate general cultivation on a large scale. But this we cannot do. As it is,

however, we think it will be good policy for those who can do so without incurring risk by large outlay for seed,* or machinery, or loss of time and labor, to put in a half acre or more, and try it for molasses, if thought best in Autumn. See Mr. Hewlett's letter on page 38 of February No. We say if thought best, because arrangements are being made to carry on a few *early* experiments this season, the result of which will be known soon enough to give some information to the public. If not wanted for this purpose, the crop can be turned to good account for feeding purposes.

*See page 116.

HINTS ON CORN CULTURE.

What one gift of Nature to the American farmer can compare with Indian corn? It is the universal grain of our country, growing equally well in the narrow vallies of Northern New-England, and on the sunny plains of the South; on the eastern slopes of the Alleghanies, and on the shores of the Pacific. Cotton, rice and tobacco, are the staples of only a part of the States, and the sugar cane only flourishes in the extreme South-west. The home of the grasses and of dairy products, is in the North, and here and here only thick-ribbed ice bridges the streams in Winter, and forms an article of commerce in Summer. But corn grows everywhere, is the indispensable article of diet in cottage and palace, from Maine to California. It is the most useful of all farm crops, and one of the most beautiful in every stage of its growth. Poet and peasant alike appreciate it, the one its leaves and tassels; the other its ears. It is the theme of economic essays for the political economist, and of song for the ballad-master. And now the time has come of which Whittier has told us in his admirable song of the "Huskers."

"When Spring time came with flowered bud,
And grasses green and young,
And merry boblinks in the wood,
Like mad musicians sung,

We dropped the seed o'er hill and plain,
Beneath the sun of May,
And frightened from our sprouting grain
The robber-crows away."

Before the month closes, the seed of a harvest of one thousand millions of bushels of corn, worth half as many dollars, will have been planted. While the seed is dropping into the soil, we wish to drop a few hints into the minds of our readers concerning the planting and culture of maize.

TIME OF PLANTING.

It is a common error to plant too early. In all parts of the country, the seed often goes into the ground several days earlier than it ought. It is forgotten that this plant is of tropical origin, and requires a much higher temperature to germinate and grow than most other kinds of grain and vegetables. We have somewhere seen it stated that the kernel required a temperature of at least 55° to make it sprout and grow well. Whatever the particular degree of heat may be, we are confident that it is much higher than the soil generally is at the usual time of planting. As a consequence of too early planting, much of the seed rots,

and the farmer has the trouble of planting over again. The corn that comes up is stunted, a part of the roots rot, and the plant yields less fodder and grain than it would if seasonably planted.

In latitudes north of this except in warm locations, both east and west, the last week in May is better than any earlier date to plant Indian corn. This is now our uniform practice in field culture. One of the best farmers of our acquaintance plants the first week in June, and though he uses the yellow dent variety, which is not early, he uniformly gets large crops. He claims that this late planting saves once hoeing, and that the corn comes up better, has a more uniform growth, and yields better.

DEEPER PLOWING

better defines the wants of the soil for this crop than any other single expression. *Deep* plowing would not answer in thin soils unless accompanied with high manuring. But every cultivator may safely go down an inch or two deeper, and if his soil be prairie or bottom land, he may as well plow four or six inches deeper than usual as two. The great error of corn culture, in the West, is shallow plowing, to which we may add continuing the crop upon the same land for a long term of years without rotation. There are tens of thousands of acres of corn land in the West that has never been plowed more than four inches deep, and the product is not over thirty bushels to the acre. The twelve inches beneath the four that have been disturbed is quite as good soil as the upper stratum, and only needs loosening to yield up its plant food. On many of these acres, ten, fifteen and twenty bushels, may be added to the yield per acre, by deeper plowing alone. It will cost but a little more to do this, and the increased yield is nearly all profit to the farmer.

The cost of cultivation, and the product of corn per acre, varies much in the several States. The average for the whole country, according to the last census statistics, was only about 25 bushels per acre—and for the Western corn-growing States not far from 27 bushels to the acre. The highest average, 40 bushels to the acre, was in Connecticut, a State in no wise remarkable for the fertility of its soil. According to statements in the last Patent Office Report, we find that some crops of this grain reached 130 bushels to the acre. Of 35 acres of Indian corn, offered in Massachusetts for premium, the average yield was 93 bushels per acre, and the average profit \$51 11 per acre. The largest crop was 138½ bushels. Nineteen crops exceeded 100 bushels, and but two fell below 25 bushels per acre.

These are certainly good crops to bring from the sterile bosom of New-England soil, but they are far inferior to what might be raised upon the prairies and bottom land of the West, with the same skill in cultivation. These results are mainly owing to deep plowing and thorough mechanical preparation of the soil, manuring and after treatment. All these things can be more easily done on the smooth lands of the West than on the rough hard soils of the seaboard. Premium crops are reported in Kentucky of

190 bushels to the acre. Such crops, of course, cost a good deal of manure and labor, and are not to be expected on every farm. But do they not demonstrate the economy of deeper plowing and better tillage?

MANURING IN THE HILL.

We have no doubt that the main body of the manure should be spread upon the soil and plowed in. But the immediate wants of the seed kernel should not be overlooked. A great deal depends upon the early treatment of plants as well as of animals. A little stable manure in the hill furnishes food as soon as the plant begins to send out its roots. If this cannot be had in sufficient quantities, manure from the sty, the hennery, or the privy, mixed largely with loam or muck, will do just as well. If only concentrated fertilizers are available, Peruvian guano or fine bone dust, a tablespoonful to the hill will have a very perceptible effect upon the yield of both fodder and grain. The former, even in so small quantities, should be mixed with loam or muck, at least one part to five of the loam, to prevent the burning of the seed kernel.

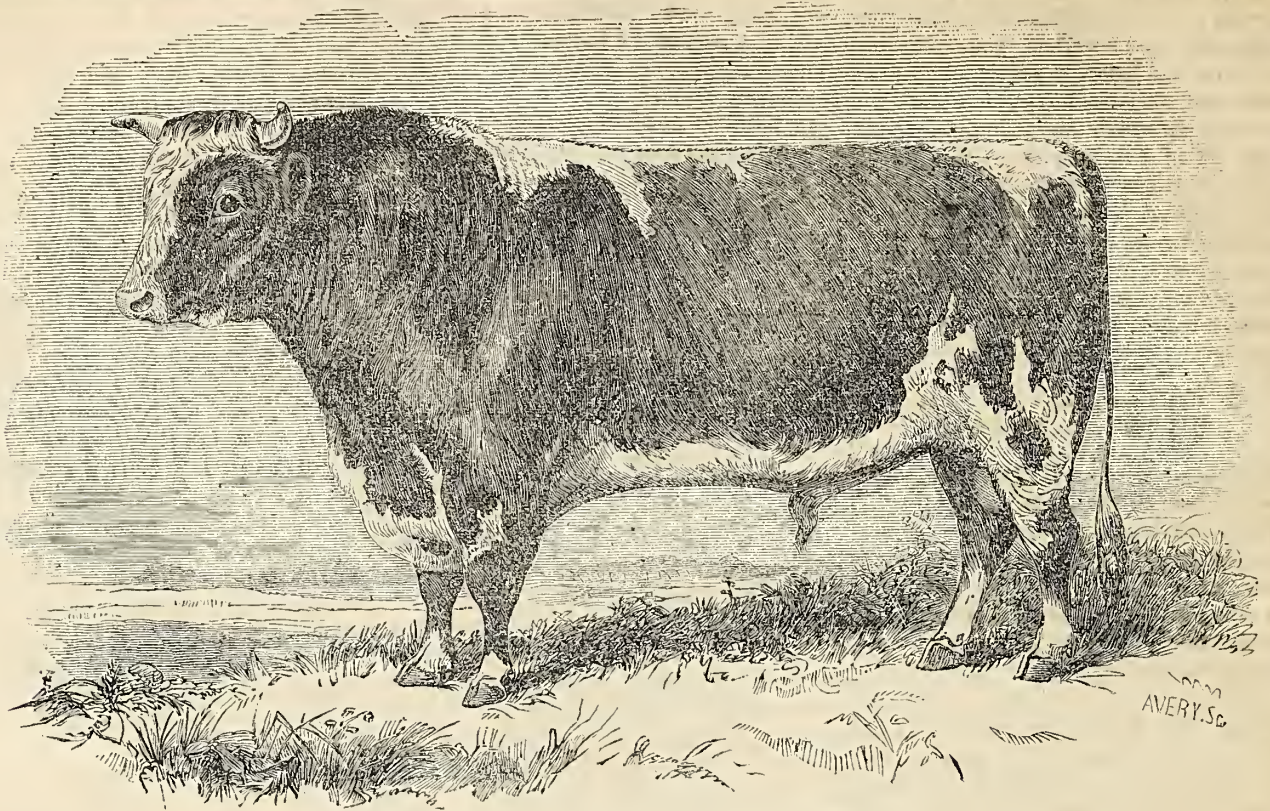
We shall have further hints on the after treatment of this crop.

A JOB IN THE GRASS FIELDS.

Go into any pasture field or meadow where cattle roamed last Autumn, and you will now find here and there miniature heaps of manure from six inches to a foot in diameter, and so thick that little or no grass will grow through them. While they lie undisturbed, they are worse than useless, as the washing have already enriched the soil directly under them quite enough for one season, and they occupy needless space. These should be scattered as a thin top-dressing, before the grass around them gets high enough to hide them or prevent their removal. Fit out the boys with an appropriate implement, and they will make "play-work" in knocking them about. The cheapest and most convenient implement we have



used is made by cutting off a piece of three-inch square scantling, say six to eight inches long. The upper corners may be rounded a little. Bore a hole through this at such an angle that when the block lies flat upon the ground three feet in front of you, the handle will point directly into the hands. A broken rake handle will make a good staff. For men or large boys, a four-inch scantling may be used. Give the boys such an implement, which you can make in twenty minutes or less, and they will knock about the dung-heaps in double quick time, and thank you for the sport. We don't remember any other kind of work which we did not tire of in our boyhood days. This was always play, and we were always sorry when that old forty-acre meadow was finished. There is a species of skill required to hit a heap so as to give it a thorough breaking up and scattering at a single blow. It is the nearest to playing ball, and always being on the "inn" side of any kind of work we know of. Give the boys a chance—grass-fields ditto.



DUKE OF CAMBRIDGE.—(12746)

Calved May 28, 1853. Bred by the late St. George Gray Esq., and imported by the present owner, Thomas Richardson, West Farms, Westchester Co., N. Y. Pedigree: Got by Royal Buck, [10750]; Dam Rose de Meaux, by Collard, [3149]; g. d., Moss Rose, by Matchem, [2281]; gr. g. d., Porcia, by Cato, [119]; gr. gr. g. d., by Jupiter, [342]; gr. gr. gr. g. d., by George, [273]; gr. gr. gr. gr. g. d., by Chilton, [136]; gr. gr. gr. gr. gr. g. d., by Irishman, [329]; gr. gr. gr. gr. gr. g. d., by B., [45].

TALKS ABOUT BEE CULTURE—NO. II.

Having encouraged our readers last month to give some attention to bee-keeping, as a source of pleasure and profit, we intend, as we have space, to give a few brief hints from month to month, which will be of service to those commencing the culture of this insect.

Those who own no bees must purchase either stocks that have been kept through the Winter, or new swarms. In the former case no time should be lost in removing them; let it be done before the trees blossom. Buy only strong stocks, which give every sign of activity on a warm day. At evening, or on a day when the bees are not stirring, turn the hive up side down, and quickly cover it with a coarse towel; tack this around carefully so that the air can get in, and no bees get out; and then carry the hive home, *with as little jarring as possible*, and put it into the place where it is to stand for the season. If you wish, to begin with a new swarm, engage some beekeeper—on whom you can rely—to sell you an *early* swarm, and the first that goes out from the parent stock. Let him have your hive in advance, and put the bees into it at the proper time, and then you can move it as directed above. Swarms sometime issue in May, more usually in June, but the earlier the better.

One word as to hives. Beware of spending money on patent contrivances; it is often thrown away. We can do little to help the bees gather and secure their honey. They do that of their own accord, and as well in a state of nature as when domestica-

ted. By giving them *hives protected against the heat and rain*, we can save them trouble and annoyance; and so hives should be made with tight joints and be painted white, and should stand under the shade of trees. By movable boxes we can secure honey in a marketable form without inconvenience; and so the glass boxes described by Mr. Quinby, in our January number, will be found very useful, though wooden ones will answer. If we wish to study the habits of bees, it is necessary to get a sight of the inside of the hive; and for this hives of a peculiar construction are required; though a single light of glass in the side of a common wooden hive will teach some people what they never knew before.

If we wish to pursue the most complete system of management, and have entire control over every part of the hive at all times, a hive on Mr. Langstroth's plan is absolutely essential. But the simple hive described by Quinby, we venture to say, will be found as *profitable* as nine-tenths of those which are registered at the Patent Office. Sometimes a queen will be lost, and the stock will die; sometimes *too much* honey may be taken away in the Fall, and the bees do not survive the Winter; sometimes the bee-moth gets access to a hive poorly defended and does a deal of mischief; but ordinary patents will not do much to remedy these difficulties, whatever may be said by men who have them to sell.

As this is the month for the blossoming of fruit trees, and for securing the delicious honey of the apple and the pear, it is well to give the bees access to at least one of the

spare honey boxes; and, as the weather becomes warmer, if they are found to be doing well, the other boxes may also be opened to them.

AMERICAN SHORT-HORN HERD-BOOK.

We learn that the third volume of this invaluable work to the breeders of Short-horn Cattle will be issued early this month. It contains about *three thousand five hundred* pedigrees of thorough-bred animals, nearly all of them never before recorded. It is gratifying to mark the progress which our neat-stock breeders throughout the United States and the Canadas are making in the introduction of the better races of English cattle to take place of the common and inferior animals which they have heretofore bred. It is estimated by Mr. Allen, the editor of the Herd-Book, that there are at this time not less than six thousand thorough-bred Short-horn breeding cattle in the United States and the Canadas, the aggregate value of which is upwards of one million of dollars at the lowest valuation, their individual value being from one hundred and fifty to five hundred, and in many cases ranging up to two thousand dollars each. Success, we say, to such noble enterprize in our American farmers.

MANURES AT THE WEST—MILDEW, &c.

To the Editor of the American Agriculturist:

Your articles on Manures and the Mechanical Preparation of the Soil are very valuable. In the February number, the question, "How do Plants Grow?" is answered very plainly, and there is no doubt of its truthfulness. You say: "Nothing

connected with improved soil-culture is more important to be understood than the best methods of saving and applying manures." This may be so with reference to the Eastern States, where the land has been cultivated for nearly a century or more. But in these Western States, there is not much attention paid to manures. The soil is generally good, and will bring three or four good crops of wheat one after the other without any manure, and by occasionally changing crops and sowing clover, the soil can be kept in tolerable good condition. If farmers would pay more attention to this, they could improve their crops from fifteen to twenty per cent. without the aid of special manures.

"Talks about Bee-Culture," in the April number, is also very good. There is little doubt that the culture of bees and the production of honey might be made a profitable business. It has never yet received the attention it demands in this part of the country. The deceptive promises of patented hives have indeed led many to abandon bee-keeping entirely.

Will not your correspondents give us their experience in destroying or keeping mildew from grape-vines?

JONAS SCHOLL.

FAYETTE COUNTY, Ind.

KEEPING HOUSE IN THE COUNTRY.

To the Editor of the American Agriculturist:

I have come to the conclusion that I have kept house just exactly long enough for my experience to be of some use to somebody. "How long?" you ask. "Thirty"—"twenty"—"fifteen years!" By no means. Exactly two years to day; and if anybody doubts my capability of giving any instructions now, let them attend to the following dialogue, which occurred not a minute ago, and showed me how incapable I shall probably be six months hence;

Bridget—(putting in her head from the kitchen.)—"How did you say I was to make the pie-crust?"

Mistress—"Oh! very plain! as much flour as will make two pies; just lard enough to make it short; wet it with a little water; and—stay, Bridget—don't make it too short!"

On reflection, I felt proud of that receipt; it sounded as if I was a very experienced house-keeper indeed. Just such Mrs. A. and Mrs. T. used to give me when I went to them in my despair, and they are called the best housekeepers in Windholme. No doubt Bridget, who is rather quick, will make very eatable crust when she has spoiled a dozen or two of pies. I learned the same way myself; but it is most probable I shall go out, when I have finished this sentence, and finding her standing by the pan, shall proceed to mix it myself, Bridget being none the wiser: some people think that the easiest way.

Old housekeepers are exceedingly apt to forget that they were once ignorant of many things which now seem to them so very simple and easy, they are not worth telling. May not one who has just threaded a rocky stream remember better the exact position of the rocks and quicksands behind him than one who long ago sailed out of sight in the deep water?—and so the experience of a housekeeper of two years, who remembers her own beginning, may be of some use to those who have had no experience at all, and who find, alas! that old housekeepers and receipt-books alike address their instructions to those who know something already.

Such, at least, is my opinion; and if the Editor of the Agriculturist thinks likewise, I may from time to time drop some crumbs to the young housekeepers among his readers, in the shape of

fragments from my diary, anecdotes of my failings, directions "how to do," and "how not to do it," and occasional reflections on things in general, which come under the head of "Keeping House in the Country."

EMILY.

WINDHOLME, 1857.

We shall be happy to hear from "Emily." The best "schoolmaster" we ever had was one not out of his "teens," who remembered the difficulties in his pathway, and taught us how to avoid them without carrying us through, as some instructors are too apt to do.—Ed.

BOOK FARMING IN HOOKERTOWN.

MR. EDITOR.—I suppose every man likes to know how the truck he sends to market suits his customers. At any rate that is the case at my house, where a good report of the butter and a call for more is certain to keep my wife good-natured for a week. As her butter is tip-top, and I bring home the news once a week, she passes for a very amiable woman the year round. Now I suppose an editor may have some human nature about him, and may like to know how his wares suit the market, and what sort of influence they have upon the world.

There has been a great change up here in Hookertown, and all through Connecticut during the last four or five years. Since then we have got our State society a going, and new county societies have been started, and I guess I speak within bounds when I say that ten times as many agricultural papers are taken as there were five years ago. These things have had a mighty influence upon farming, and I should think in our town the garden crops had been doubled, and full twenty per cent. has been added to the crops in the field. Some folks have got to taking the papers, and reading them, that I should as soon have expected to see reading Latin. Seth Twiggs was in at our house last evening, and he was telling how he come to take the Agriculturist. I give you the story as he told it to me.

"I tell you what it is, Squire Bunker, that lot o' garden sass I see'd you putting into the cellar last Fall did the work for me. You see, I'd always thought that this book farming was the worst kind of humbug, leading folks to spend a heap of money, and to get nothing back again. I'd heard the Parson and Deacon Smith, and the young Spouter from Shadown, (there was a twinkle in Seth's eye here, and a very grave look at Sally,) talking about guano, and what tremendous crops it would fetch, and then agin about phosphates and superphosphates, which was all as dark as fate to me. You see I thought them big words was all nonsense, and the stuff itself no better than so much moonshine on the land. The Deacon's crops, you know, have been amazing for some years, and then the strawberries last Spring, and that lot of sass, convinced me that there must be something about book farming arter all. So I went home and talked the matter over with my woman, what the minister said, and how the crops came in where they used the sub-sile plow."

"Well," says she, "Seth what is the use

of your always standing by, and hearing things said that you don't understand, like a stupid calf. Why don't you 'scribe and take them books?"

"Cause why? How can I afford it? I haven't quite paid for my farm yet, and the baby was sick this Winter, and the doctor's bill isn't paid. And you know, wife, we have always gone upon the principle that 'a penny saved is two-pence earned.' We can't spend a dollar for farming books."

"Well, Seth," says she, "never mind. I can raise the dollar. 'Where there is a will there is a way.' I can make the old shawl and bonnet do another year, and that will be ten dollars in your pocket. Everything that a farmer has to sell is high, at any rate we should think so if we had to buy it. I can remember well enough when butter was only ten cents a pound, now it is thirty, and many a bushel of potatoes you have carried to market for twelve and a half cents, now they are one dollar and more. Seth, if you raily want them books, I'd have 'em any how. It wont take a great deal of land to raise an extra bushel of potatoes, and if you're put to it for help I'll agree to loe 'em."

"Enough said," says I. "Woman I'm bound to have the books. So I sent a dollar down to Mr. Judd by the parson, the last time he went down to the City, and it want long before the January number came, as full of good reading as an egg is of meat. I had a regular set-to a reading on't, the first night, and I declare if it want smack twelve o'clock before I gin it up. I'd got along to that phosphate factory, when wife spoke out—says she: 'I thought them farming papers was all nonsense!'"

"Don't talk," says I. "You see this paper, wife, is on my side. It is showing up the humbug, and no mistake. And there is more humbug in the world than I ever dreamed of."

Upon this, Seth lit his pipe and vanished in smoke. Yours to command,

TIMOTHY BUNKER.

HOOKERTOWN, April 15th.

"CREAM SOAP."

Mrs. G. B. Alvord sends us the following:

Take 5 pounds of washing soda; 3½ pounds clean grease; 5 pounds of lime, and 3 gallons of soft water. Slake the lime; dissolve the soda in the water, and stir the two together, allowing it to remain over. In the morning, pour off the liquid, being very careful not to let any particles of lime follow. Put it into an iron vessel where the grease has been previously warmed—boil over the fire for a few minutes, stirring it during the time. Take it off, and in a few hours you will have some nice hard or "Cream Soap," which, if used for washing or cleaning house, will be found to be a great saving of labor, and not injurious to the hands or clothes. Dissolve a piece of it, large enough to do your washing, in a quart of boiling water, making a suds, in which let your clothes soak all night. In the morning, wash them as usual. They will require very little rubbing. Pour a pailfull of boiling water on the lime which remains. Let it stand all night; pour off carefully, and bottle it. This last is "washing fluid," which is valuable for cleaning casks, &c., using a cup full to a gallon of water.



DOUGLAS FIR—(ABIES DOUGLASSI.)

A CHAPTER ON EVERGREENS.

Above we present a cut of the Douglas Fir, a native of California, introduced into Great Britain in 1826 from the Western Coast of America, by Mr. D. Douglas, from whom it received its name. This tree has flourished well in England, and is there very highly esteemed. The tree from which the above drawing was made grew from seed planted in 1828, and is now over seventy feet in height, and its branches extend about thirty feet on each side of the trunk. It is reported that in the native soil trees of this variety have been measured which were one hundred and eighty feet in height, and the spread of the branches near the ground one hundred and forty feet. The wood is of a yellow color, firm and heavy. The London Florist says of it: "It assumes an upright conical form, with numerous horizontal branches from the ground upwards, thickly set with foliage; the leaves are of a pleasing green color, and remain a long time on the branch, and thus form a dense mass of foliage, which adds much to its value as an ornamental tree; and when the young shoots (which are at first of a bright silvery green)

protrude in the Spring, the contrast between them and the older shoots from which they proceed, shed a varied mass of light and shade at once beautiful and striking."

Thus much for the Douglas Fir elsewhere. It would be a most desirable tree in this country, but some attempts to cultivate it here, made by a highly intelligent and skillful friend, indicate that it will not flourish in our climate. We shall hardly give it up yet, but so far, we cannot hold out any strong hopes that we shall be able to add this majestic tree to our list of valuable evergreens.

THE BEST EVERGREENS.

Below we give a list and brief description of some of the best evergreen trees, placing them in the order we would select them, according as we desired one, two, three or more. As a matter of convenience, and to save inquiries, we annex the price at which they are usually sold from first-class, well-regulated nurseries. The prices are a little higher in special cases where the trees are particularly symmetrical and well-formed.

1. NORWAY SPRUCE (*Abies excelsa*).—For all purposes, and under all circumstances of soil, climate and culture, this tree will give

better satisfaction than any other evergreen. Possessing neither the rich gracefulness of the Hemlock, nor the feathery lightness of the White Pine, it has yet a solid richness in its heavy foliage, and, when well-grown, droops with a graceful curve when grown singly; or if planted in masses, it forms the finest back-ground in the world against which to embroider all sorts of flowery deciduous trees and shrubs. It will bear transplanting better than any other evergreen: out of many thousands we have known transplanted, very few have been lost. A young Norway Spruce, in June, when its young shoots are just putting forth, and so weak as to droop gently over, is one of the most beautiful evergreens we know. It is also an excellent tree for a hedge, and when kept trimmed, will form a close, compact screen more quickly than any other evergreen. The trees are now quite common in nurseries, and can be obtained at reasonable prices. Last season we paid \$2 apiece for some very fine specimens, but those of the usual size for planting can now be had for 50 to 75 cents each. These are four to five feet in height. Smaller ones, say twelve to twenty inches in height, are sold at 10 to 20 cents each.

2. WHITE PINE (*Pinus strobus*).—This tree will come next to the Norway Spruce in value, although it will not so well bear transplanting. It never becomes rusty, is always noble in its stature, and its rustling branches produce that pleasant, peculiar sound, like the distant roar of the ocean. Its color is a bright, fresh green; it grows very rapidly, and it always gives pleasure. It bears the shears well, but is handsome as a single specimen. The usual nursery price is about 10 to 12 cents for each foot in height—the price varying with the beauty and symmetry of each specimen. After the above two selections, if variety is sought after, we would name the

3. AUSTRIAN PINE (*Pinus Austriaca*).—It has a coarse, heavy foliage, of robust habit; is a free grower, and bears transplanting very well. It contrasts well with the White Pine. Nursery price, say 25 cents per foot of height.

4. SILVER FIR (*Picea pectinata*).—This is a fine evergreen, of the Balsam tribe. It should be planted with those previously named, both for its intrinsic beauty, and to give variety. Nursery price about 31 to 37 cents for each foot in height.

5. HEMLOCK SPRUCE (*Abies Canadensis*).—This is the common Hemlock of the American forests, and it is one of the most beautiful evergreens, having graceful, pendant branches, and rich, dark green foliage. Unless in the best soil, in a rather moist situation, it does not grow very large. Nursery prices about 25 cents per foot.

6. WHITE SPRUCE (*Abies alba*).—This is transplanted with ease and safety. It is, like the Hemlock Spruce, a slow grower, but every way worthy of at least a sixth place in any collection of evergreens. Nursery price 25 to 30 cents per foot for well-grown specimens.

7. BHOTAN PINE (*Pinus excelsa*).—This

somewhat resembles the White Pine, having a more slender foliage, of a livelier and brighter green. It is a new pine, but is coming into general favor. Present nursery price about 75 cents per foot in height.

8. **STONE PINE** (*Pinus cembra*).—This grows very slow, and to only a moderate size, say nine to twelve feet in height, with a fine globular head composed of a dense mass of dark green foliage. It is a beautiful and attractive tree. Present nursery price 80 cents to \$1 per foot of height.

The *Deodar Cedar* was until recently considered one of the most beautiful and graceful of evergreens, but in this latitude the past two Winters have proved decidedly injurious to it. We have this Spring examined a large number of trees, and found them almost entirely stripped of foliage. At the South it will probably do well.

EVERGREEN SHRUBS.

We have given in a preceding article, a list of the best evergreen trees. The evergreen shrubs are very desirable, not only to mingle with the taller growing trees, but also to plant in small plots, especially where there is not room enough for those of larger size. We name those most desirable first.

1. **Rhodendron Cataubiense**.—This "tree of roses," as its name implies, is one of the most beautiful shrubs now grown. It is a complete evergreen, with somewhat glossy leaves of a thick texture, and bears large clusters of white, lilac, and crimson flowers, "each large enough for a lady's bouquet." Ours have been entirely unprotected through the Winter, and they now give promise of abundant bloom during this month. They were set out from the nursery May 10th last year, and produced several clusters of fine flowers in June. The plants are raised from the seed, but require several years to attain even a foot in height, so that it is advisable to procure them from the nurserymen who import the plants from abroad. Blooming plants, one to one and a half feet high, can now be obtained for 50 cents each, or 75 cents to \$1 for those of large size and special beauty of form and flower. A Western subscriber writes us that "upon our recommendation last Spring he procured half a dozen plants of Messrs. Parsons & Co., Flushing, N. Y., and he would not now part with them for the cost of the *Agriculturist* twenty-five years."

2. **Siberian Arbor Vitæ** (*Thuja Siberica*).—One of the best lawn plants. It grows very symmetrical. Price about 75 cents. The American Arbor Vitæ is also a valuable shrub, but has a less compact and beautiful head.

3. The **Cryptomeria Japonica** is worthy of a place on the lawn or grass-plot, as it is a beautiful and graceful plant. It proves to be less hardy than the first two, and does not endure our climate well. It does best on a good soil, with a dry bottom. Present price about \$2.

4. **Golden Arbor Vitæ** (*Thuja aurea*).—A superb plant, deserving the most conspicuous place upon the lawn. In habit it is a

dwarf, forming a smooth symmetrical cone. It was, however, somewhat injured with us last Winter. Price about \$1.

5. **Small-leaved Cotoneaster** (*Cotoneaster mycophilla*).—A low growing, spreading shrub, bearing bright coral berries; very pretty upon a lawn. Price of this, and numbers 6, 7 and 9, about 50 cents each.

6. **Tree Box** (*Buxus arborescens*).—A neat shrub, valuable for its lively green, dense foliage and compact habit; a pretty object as a solitary specimen.

7. **Japan Euonymus** (*Euonymus Japonica*).—A desirable shrub, which will grow well in any ordinary soil, but proved rather tender with us during the last two severe Winters.

Broad-leaved Laurel (*Kalmia latifolia*).—One of the finest native shrubs; lively green foliage; flowers plentifully. Price about 75 cents.

9. **Fiery Thorn** (*Crataegus pyracantha*).—A showy, ornamental shrub, worthy a place in every collection.

Two other beautiful shrubs we should be glad to recommend, but they have not proved hardy, especially during the past Winter; we refer to the English Yew (*Taxus baccata*), and the Red Wood (*Taxodium sempervirens*).

A small sum expended in procuring a part or the whole of the above, or several specimens of each, with a very little labor in setting and taking care of them, will do much to adorn and beautify the rural home in Winter as well as Summer. They are obtainable at most of the large nurseries, and bear transportation even to a long distance.

RURAL ART ASSOCIATIONS.

In a certain town within the circle of our acquaintance, a society of gentlemen has been formed, with the name of "Rural Art Association," whose object is the promotion of horticultural knowledge and taste among its members, and the improvement of the town in rural embellishment. Monthly meetings are held at each others houses in rotation. The order of exercises is somewhat as follows: The first hour is devoted to supper and miscellaneous conversation; then, half an hour to the reading of an Essay by some member designated at the previous meeting: the remainder of the evening is occupied in a familiar discussion of some practical subject. This discussion is opened by some member appointed at the last meeting. He is allowed to speak twenty minutes. After his remarks, the Chairman calls upon all the other members by name, to express their views on the subject before the meeting, no one, however, being allowed to talk more than five minutes, except by special permission. Meanwhile, the Secretary is busy taking notes of the debate, for publication in the village newspaper. In this way, the benefit of these meetings is not confined to the members of the association, but inures also to the whole town.

In addition to this, each gentleman of the Society is required to pay five dollars annually, as a condition of membership. This furnishes a small fund, which is used in planting trees by the roadside in various

parts of the town. The Committee having charge of the tree planting, endeavor to induce all landholders to set trees themselves against their own premises; but where this cannot be done, they use the funds of the Society for that purpose. In this way, the streets of the town are becoming greatly improved. Last year, upwards of one hundred and fifty trees were planted by the Association, and this year, as many more will be added to them.

We commend these facts to the notice of our readers. Individual effort will often accomplish much toward the rural embellishing of a neighborhood. But it cannot do everything, it cannot compass a whole town, plant trees by the mile, and adorn parks by the acre. Societies like the above, combining the judgment, taste and means of a number of respectable citizens, will generally accomplish important results. Their influence on the members themselves must be exceedingly happy, and the towns where they are organized have reason to be thankful for their labors and their influence.

PLANT EVERGREENS THIS MONTH

Evergreen trees and shrubs may be planted at almost all seasons, but we decidedly prefer the middle of May in this latitude, and indeed anywhere north of Virginia. Further south, they may be transplanted a little earlier. As a general rule, the best time is when the soil has become settled and somewhat warmed, and before the dry season; or when the young buds are just pushing forth into a new growth.

In another article we have described some of the best kinds. No manure is required for evergreens. A good loam is the most appropriate. If a heavy clay or light sand, it is always better to dig out a space three to five feet in diameter, according to the size of the tree to be grown, and fill in good soil at least one foot, or, better, two feet in depth. In planting these, or, indeed, any kind of trees, great care should be taken to loosen the soil well, and have the holes so large that the roots shall not be cramped in the least, and also provide good soil for their extension. A little care of this kind will pay well both in the more rapid growth, and in the longer life of the tree.

DWARF PEARS AND GRAPES.

The subject of dwarf pears is now being thoroughly discussed in all the leading agricultural journals of the day. Some ten or twelve years ago, the most glowing accounts were sent over to this country of the success of Mr. Rivers, in England, and of several French pomologists, with dwarf pears, which awakened great zeal among the fruit growers on this side of the water. The old adage,

"Whoso plants pears,
Plants for his heirs"

was ridiculed as old fogyism. Fruit may now be had in three years from the bud—at least a little! The trees should not be over-cropped when young! During the past ten years multitudes of trees have been planted,

and the result of the experiment has been anxiously waited for. Reports are now coming in from all quarters. On the one hand, they are unfavorable. Some persons, who were carried away with the mania, expecting almost fabulous results, and that without bestowing more care on their trees than on their current bushes, are now carried away with a furor of disappointment. They come down on the poor quince stock with a severe and almost wholesale denunciation. The quince, say they, being a native of the moist climate of Japan, is not adapted to the cold and dry climate of this country; it is not sufficiently allied to the pear to form a firm union of the stocks, and a healthy tree; it requires too much care and too high feeding for anybody but idle and rich amateurs. And then, the Spring pruning, the Summer pinching, the Autumn shortening and the root pruning; what busy man can look after all these things! Besides the borer at the root, the insects in the bark and on the leaves, the blight in its several forms, and other diseases cutting down multitudes of trees just as they begin to promise fruitfulness. And last, but not least, the scanty yield of those trees which happen to escape with their lives! Such is the lamentation of unsuccessful cultivators. Smarting with their disappointment, they have tried their best to write down the once lauded quince stock. And others who have been victimized, but could not write about it, have applauded the writers, crying out "Good! give it to 'em strong!" &c., &c.

Others report more favorably. Careful, pains-taking men, have had a measure of success, and hope for still more. Their advice is to use the Angers quince for stocks, and no other; to plant only those sorts of pears which have been found to succeed well uniformly on the quince, (and the number is quite small,) to bury the whole quince stock in setting out the tree, so as to enable the pear stock to get a slight rooting in the ground; to give the trees liberal culture, confining them to the garden, and giving up the orchard to standards. By so doing, they feel confident that success will follow.

But all this does not satisfy the majority of fruit-growers. It is well known that millions of dwarf pears have been planted within eight years past, and yet the markets are not supplied, nor even the tables of the farmers themselves, in anything like abundance.

We have tried our hand in cultivating dwarf pears, but with such varied results that we can neither consent yet to give up our garden pets, nor do we expect to glut the market with our surplus products. We have also watched the paper controversy now going on, with much interest. The vigorous thrusts of the assailants have amused us, and not less the quick and dexterous manner in which they have been parried. But before the battle waxes hotter, we wish to interpose and suggest a compromise. In the hope of making peace we extend, not the Olive-branch, exactly, but something next to that, the Vine-branch. Or, to drop all figure, our counsel is not suddenly to abandon the culture of dwarf pears—the ex-

periment has not been fully tried as yet—but to enter gradually upon a more extensive culture of the grape. The pear requires more skill and more care in its management than the grape, it is subject to more diseases, and its yield of fruit is less certain. A grape vine, also, will begin to bear as early as a dwarf pear, and its vigor will last much longer. So many new and excellent hardy varieties have lately been introduced, that all who wish may now grow superior grapes for themselves. The fruit may be sold in market at highly remunerative prices, or made into wine, or it can be preserved for dessert in Fall and early Winter.

Throughout the Middle States, the Isabella and Catawba grapes will undoubtedly be the main reliance for some time to come. The Isabella can be ripened without difficulty as far north as Albany, Boston and Buffalo, and even further north if trained on the south side of a high and close fence, or on the same side of a house or barn. We have found, in our own experience, that its early maturity can be promoted by thorough pruning, and by keeping the canes on the ground until late in the Spring.

Our mode of procedure (in Central N. Y.), is this: Early in November we go over our vines with the pruning shears, shortening them to the top of the trellis, cutting back the annual growth to two or three buds, and removing all weak and half-ripened shoots. Late in the month the canes are loosened from the bars and thrown upon the ground. The refuse cuttings of the vines, and a little pea-brush are laid on the canes, and the whole covered loosely with a few old boards. This covering is designed not so much to keep the vines warm, as to preserve them in a uniform temperature until Spring is fairly open. Many of our neighbors leave their vines on the trellis, and they are often killed near to the ground. Our own are never injured by the severest Winters. We do not uncover them as soon as the first swallow comes. When Spring opens we remove the protection gradually, but leave the vines on the ground till all frost and cold winds are over, and the buds have become considerably developed. The canes are then carefully raised so as not to bruise the buds, and tied in their places. *By keeping them on the ground, and under the lee of a fence, a week or ten day's growth is gained over vines tied up to the trellis earlier and exposed to the cutting weather of early Spring.* This is a very important point, and we recommend it to the notice of our Northern readers. In tying the canes to the trellis-bars, we keep them one foot and a half apart. During the Summer little is done in the way of pruning, except rubbing off superfluous shoots, and checking the fruit spurs after the grapes become about the size of large shot. We never pull off the leaves from the vines to hasten the ripening of the grapes, for nature wants them to elaborate the juices of the fruit. Nor do we pluck the clusters as soon as they become blue; they are not ripe until nearly black. A few frosts will not hurt them. Let them remain until fully ripe; then they will satisfy the most fastidious taste.

At another time we shall have something to say about the newer varieties of hardy grapes, and the best modes of preserving grapes fresh for Winter use.

GRAPE CULTURE—NO. V.

BY WILLIAM CHORLTON.

Now that the severity of the season is over, we may look among the vines and examine the effects of the extreme cold of the past Winter. There will be instances in very cold latitudes where the vines have excusably suffered, but in the majority of cases, the mischief has occurred through an over-damp or imperfectly drained subsoil. Those under glass may be injured from the same cause, and from over-rich, deep borders, which tend to keep the canes in a growing state, and supplied with too much fluid until the approach of Winter, leaving no time before the frost sets in for the drying up or ripening off of the woody fibre. The grape-vine, like all other plants, is composed of cellular organs, which, in a growing state, absorbs like a sponge all the moisture it can suck up, and if these are filled with fluid late in the season, they must evidently be ruptured by the expansion caused by freezing. Every cell thus burst is effectually destroyed. If a portion only be ruptured, there may be sufficient cells left to circulate the rising sap during the next growth, and so *apparently* recapacitate the whole body. The dead cells will, however, remain in the wood; and although there may be no appearance of permanent injury, they often produce gangrene, and frequently destroy the parts affected. A frosted limb in the animal body is a parallel case, the effects of which we all know. In indoor culture, some protection is afforded by the house, even though no fire heat has been applied through the Winter. True, we sometimes see examples where the exotics growing in the open air are nearly or entirely uninjured, leading us to infer that no covering is necessary. In the grapery, however, we must recollect that much richer beds are prepared for the roots, and, consequently, a large growth is produced, which requires longer time, and a dryer atmosphere in the Fall, to evaporate the surplus juices, to enable the vine to withstand any great amount of frost. In proof of this, we may refer to the hardness of the *Paulownia*, *Ailantus* and *Catalpa*, in our own climate, where the wood becomes thoroughly ripened, and the moisture in the cells dissipated; while in most parts of Britain, with less severe Winters, and shorter and damper Summers, the same trees are killed back almost every season. These considerations show the necessity of covering the vines in houses where fire heat is not used.

I have spoken thus minutely of this feature, as many practical cultivators and amateurs would like a house of exotic grapes, providing they can succeed with them without the expense and trouble of artificial heat. Although fire heat is of service, temporarily, there is no actual necessity for it, as with a well-fitted glass arbor, attention to covering in the Winter, and not hastening the vines into growth in the Spring, great results may be accomplished, as I have proved during the last seven years, and will conclusively show, in due time, that it may be made a paying business.

OUT-DOOR CULTURE.

In the vineyard, and out-door culture generally, the vines will now begin to show their fruit, and likewise the most suitable branches for next year's bearing. Continue to disbud, or rub out, all that are superfluous. Those which are fastened to stakes will require, say two of the best lower shoots to be left. A sufficient number should be

retained upon trellises to fill up all vacancies, or furnish branches to be laid in at the distance of eighteen inches apart, as fruiters hereafter. Nothing deteriorates the quality of the fruit, or renders it subject to rot, more than the overcrowding of growing wood during the Summer. Every leaf should be freely exposed to the action of light, which cannot be, the case when these young superfluous branches are allowed to "ride over" the whole surface of the plant.

COLD GRAPERY.

Some care is still necessary during the earlier part of the month where late frosts are apprehended. In such, keep the house cool for a few days, but do not neglect a free use of the syringe over the vines every mild evening. A liberal supply of water should be sprinkled over the floor of the house in the morning, to maintain a moist and genial, but not over-stimulating atmosphere, which will cause the buds to swell and burst with vigor. When the shoots are sufficiently advanced to show the best ones for fruiting, and also for next year's wood, all, excepting these, may be rubbed out. It is best, however, to leave an extra one on each spur, in case of accident, for, when fire heat is not used, the young shoots are quite brittle, and sometimes burst out before a sufficient amount of woody fibre is formed at their base to connect them firmly with the parent branch. For the same reason, they ought to be handled very carefully, and not be drawn down to the wires too soon. Towards the middle or latter part of the month, according as the locality is free from frosts, the house should be kept more closely shut, and the vines allowed to commence their growth in earnest. Let the temperature be gradually raised a degree or two each day, beginning with 70°, and increasing to 85°, in the middle of the day. Do not open the lower ventilators, as the cold air checks the circulation of the sap, paralyzing the action of the plants. Close the house early at night, use water freely overhead, and give the vines every chance to push into vigorous growth. The outside borders should also be attended to. We will presume that a mulching of manure was applied in the Fall, which should now be forked over, leaving the soil loose and open, to allow the air and sun to act upon the subsoil, thus invigorating the roots. If this covering of manure was omitted, apply it at once after lightly forking over the border. The Spring rains will carry the soluble fertilizing material to the roots as food for the plants.

THE FORCING HOUSE.

The earliest crops will now be "stoning," or in a more advanced state towards ripening. In fact, it is possible to have them ripe before this time, where no expense has been spared. When the last swell of the fruit commences, syringing overhead may be discontinued, and water entirely withheld inside of the house as the coloring progresses. At this time, a grape-vine will be maintained in a healthy state, if kept very dry. We are, however, sometimes compelled to apply water to prevent the encroachment of insects, but when this becomes a necessity, the water should never come in contact with the fruit, as it would cause some kinds to burst their skins, and all would be injured in appearance by the "bloom" being washed from the surface of the berries. For the latter reason, the bunches should not be touched with the fingers, or rubbed in any way, while hanging on the vines. As the side shoots continue to push fresh growth, the tops will need to be shortened in to one leaf above the former pinching; but in young canes of the present season, the top may be allowed to extend, and the laterals shortened to one leaf as they continue to increase.

The later successions of grapes will require the same treatment which was recorded for this in the last two months, and need not be repeated here. With the retarded crop, the atmosphere may be maintained as low as possible for some time yet, and corresponding small quantity of water used.

PROPAGATION.

If the "eyes" or buds were planted as recommended in February, and have been attended to a right, they will now be ready for potting off. Lift them carefully, place each separately in a pint pot containing suitable earth, give a sprinkling of water afterwards, and replace them in a gentle growing temperature, keeping rather close than otherwise for a few days, after which, they may receive the same treatment as established vines

DESTROYING THE BORERS.

DETAILS OF EXPERIENCE.

Mr. G. W. Harman, of Bennington, Vt., sends us the following valuable details of his observations and practice:

Various species of trees, both fruit and ornamental, are subject to the attacks of grub worms, which either kill, or seriously injure them. Among these worms are included the *Apple* and *Pear Borers*, the *Peach* and *Plum Borers*.

The *Apple Borer*, as usually observed in this vicinity, in the trunks of the Apple, Quince and Mountain Ash trees, is a white, fleshy grub, with a flattened body and large dark head, which generally enters the tree at or near the collar, just at the surface of the ground, where the bark is tender, and working longitudinally, at first, in the bark and new wood, eventually perforates the tree to the extent of many inches, up and down, or through the stem, diffusing a poisonous property, and causing its death. This grub is the larvæ of a brown and white-striped beetle, half an inch long; and it remains in this grub state two or three years, coming out of the tree in a butterfly form, early in June, flying in the night time only, from tree to tree, after its food, and finally depositing its eggs during this and the next month in the collar of the tree.

The *Pear Borer*, in appearance, is nearly identical with the *Apple Borer*, perhaps the same insect, but is essentially different in its mode of operation—confining its ravages to the bark and soft wood, and moving in a crooked or zig-zag course around the stem, cutting a channel that completely arrests the downward flow of the sap.

The *Peach* and *Plum Borers* are more round and fleshy than the former two, and make their lodgement in the collar of the tree. But it is in reference to the *Apple* and *Pear Borers* that I would more particularly speak.

To rid my orchard of these implacable enemies, I repair to the trees about the 15th of August, and kneeling upon the ground, with a garden trowel, remove the soil for a few inches around the stem, to the depth of three to six inches. With the back of my knife, I scrape the uncovered stem thoroughly, pressing upon every part of it, and several inches above the collar, to assure myself of its soundness, and if any yielding under the pressure of the knife is observed, I explore for the cause, which generally proves to be a *Borer*. I cut away the dead bark, and remove all the chips left by the *Borer*, sometimes following with chisel and mallet six or eight inches, until I find it, and having killed the insect, carefully clean out the whole wound made by it in the tree, taking care not to enlarge it. Ten or fifteen grubs are sometimes found in a single tree. Having completed the examination, I replace the soil, covering with it, if possible, all the wounds upon the stem. In

April, I repeat the examination, to kill such of the insects as may have escaped the former. An average of forty minutes to each tree is consumed in the two examinations.

Various expedients had been adopted to prevent the beetle laying its eggs upon the trees, some of them partially successful, but none completely so, until an experiment which I tried last season. It was this:

During the last week in May, I removed the soil from around the stems of my apple, pear and quince trees, to the depth of two or three inches. I then wound around each tree a large newspaper, placing the lower edge at the bottom of the cavity, and extending upwards the full length of the paper, tying the paper at the bottom and top firmly with twine, and loosely in two places between. I then replaced the soil. In about three weeks, and before the papers had rotted at the ground, I banked the earth around a considerable portion of them, and repeated it about three weeks later. Early in July, I loosened the upper twine, to prevent its cutting the trees. About the 15th of August, I removed the papers from the apple and quince trees (leaving them on the pear trees all Winter), and, to my great joy, not a *Borer* was to be found in those which had been banked up in proper season: the others not wholly escaping. The reason was obvious. It was simply impossible for the beetle to lay its eggs where instinct teaches it to deposit them. The whole time occupied in these operations, including the examinations in August, averaged twenty minutes to each tree.

If our cultivators will pursue the course above indicated (first ridding their trees of all grubs now in them), they need complain no more of the *Borer*, the experience of one Summer confirming as an infallible preventative what would seem to reason to be such.

Covering the stems with paper, inasmuch as it shields them from the solar rays, is very beneficial, promoting a thrifty growth of the stems.

THE FARM VEGETABLE GARDEN.

We have often been greatly surprised at the general absence of a well-ordered vegetable garden in farming establishments; the more so, as it is a matter which addresses itself to the daily necessities of the household. A few vegetables are grown here and there about the farm, and these of the most ordinary kind. A thorough reform is needed in this respect, and we hope to see it become general throughout the land. Every farmer can almost, as well as not, place on his table daily the choicest delicacies of the season, and he ought not to feel satisfied without doing so. Let all who have not already a good vegetable garden, set apart a piece of ground for this purpose, and inclose it with a neat fence. It should have a warm exposure, be well drained, and it will pay well to trench it two or three feet in depth. If the surface soil is not so deep, it can be made so by the liberal addition of good loam: two feet in depth is none too much. Good old barn-yard manure must be used with a liberal hand: "as we sow, so shall we reap." Divide the garden into beds of proper size, and, when practicable, edge them with box; the beds should be large, rather than small, that the ground may not be wasted by unnecessary walks. Hot-beds, as described on page 63, are very useful. As permanent fixtures, do not omit rhubarb, sea

kale, and a bed of asparagus. The hot-bed frames, if provided, will furnish some nice early lettuce, radishes, cauliflower, cucumbers, &c., and will be useful in starting early cabbages, melons, &c., to be set out when the weather becomes warm.

In a garden prepared as above, one can grow, in great perfection, almost anything in the form of a vegetable, with proper care and skill. Some judgment will be necessary in planning a succession of crops. It is well to avoid growing the same kind of vegetable twice in succession on the same spot; but frequently two crops may be grown in one season on the same ground; for example, celery and late corn may follow early peas; turnips and early cabbage succeed lettuce and the first planting of bush beans; and experience will soon point out other examples of a similar kind. Procure none but the best seeds. It is better to buy some kinds of seed annually than to attempt to raise them, owing to their liability to become mixed; this is especially true of the melon tribe. If these are grown for seed, they must be kept widely apart. Whatever is grown, let it be of the best, and bestow sufficient care on it to bring it to the greatest perfection.

There is a wise saying, "A place for everything, and everything in its place." Then by all means let there be a place for the vegetable garden, and everything in it in its place there. Growing things here and there, and nowhere in particular, induces indifference and neglect, and begets habits at war with all system. As a general thing, farmers' tables will not be supplied with the choicest vegetable productions until they set apart a particular spot for this purpose. Land in the country can always be spared for a garden, and this should be made the most productive and profitable spot on the farm. A fair trial of a single season will demonstrate this.

EVERGREENS AT THE NORTH.

A Correspondent writes:

A good deal has been said in our horticultural journals, lately, about evergreen shrubs, and their desirableness as a Winter embellishment for ornamental grounds. For the most northern States, I do not consider them of much importance, because they are covered up or borne down by the snow during a large portion of the winter. And besides, those of much beauty are too tender for the extreme North. In the Middle and Southern States, they may be used to some purpose. Among the finest for those latitudes, I recommend the Mahonia, Native Laurel, Catawbiense Rhododendrons, Euonymus Japonicus, Tree-box, Evergreen Thorn, &c., &c. Certain hardy evergreen trees may be so pruned as to make a partial substitute for shrubs, even at the North. The Red Cedar, Hemlock, Savin, Siberian Arbor Vitæ, Swedish Juniper, and with them the American Holly and the Winter Berry to enliven the scene with their brilliant berries—these, grouped along the margin of the most frequented walks, or among other evergreen trees in view from the parlor win-

dows, will produce a cheerful scene throughout the dreariest days of Winter.



CURRENTS—PRUNING, &c.

On page 304 of Vol. XV, we detailed the method pursued by Mr. Henry Funnell, of Huntington, Long-Island, (N. Y.), in cultivating and especially in pruning currant bushes so as to produce a very superior fruit. Late in the Fall Mr. F. forwarded us specimens of his trees—for trees they are, though dwarf—which we planted out. We present herewith an accurate drawing of one of them as it now stands in our garden. It is five years old we believe; the main stem is five inches in circumference at the middle, and six inches high from the ground to the first branches. It will be seen that the branches spread out widely, leaving an open space in the centre, almost large enough to set in a barrel. This gives free access to air and sun light, and room for a large amount of fruit. The method of obtaining such a form is as follows: The first year cuttings one foot long are set into the ground to the depth of eight or nine inches leaving only three or four inches above ground. All the buds are rubbed off except the four upper ones. These shoot out side branches eight to twelve inches. In April, of the second year these side shoots are cut back to two or three inches in length, and two or three buds left upon the upper side of each from which new branches start upward, and outward, which are again pruned the next Spring. In this manner any desired form can be given to the head. From the ten or twelve upright branches thus produced, side shoots are continually starting out which are kept trimmed back to two or three inches in length, and upon these spurs is formed the best fruit. In our former article we described a single stem which contained 23 berries weighing over half an ounce (250 grains), and of superior flavor, with a solid pulp.

The method of culture pursued by Mr. F., is to set the cuttings early in the Spring, in a heavy loam, spaded two feet deep, with no manure added then or afterwards, save a free watering from time to time with the contents of a barrel standing under a sink spout, to which is added the soap suds on washing days. Great care is taken to keep the ground clear of weeds by frequent surface hoeings, and with one thorough stirring around the roots early each Spring.

CHAPTERS ON STRAWBERRIES.

CHAPTER V.

In our last we gave directions for planting, and named a few varieties as those most likely to give general satisfaction. It is not too late to plant any time this month; indeed, with a little care, strawberries can be planted at almost any time between April and November.

Some other varieties may be added to those recommended in last month's paper. The Crimson Cone is a good fruit, of medium size, and being very solid and high-colored is valuable for market. New-York City is mainly supplied with this variety. It grows vigorously with less care than any other, and being acid as well as solid, is superior for preserving. It is slender and conical in form, looks wild and rank as a plant, and succeeds equally well cultivated in beds or rows.

The Jenny Lind is one of the very earliest, the fruit of good quality and size, though not very productive. On account of its early habit, it deserves a place in a collection of a dozen varieties.

The Eclipse, a seedling, is a productive and beautiful strawberry of medium quality, but not solid enough to bear carriage.

The Scarlet Magistrate is, perhaps, the largest strawberry that we have, except it be the new seedling of Mr. Peabody. This last, according to the drawings and statements made in reference to it, is a monster. The Magistrate is only of medium quality, not equal to Hovey's Seedling, and but moderately productive.

We have tried Nicholson's Fill-basket. It does not succeed with us; all our plants burned out last Summer. This is the fate of nearly all European strawberries. In America we lose, from this cause, the Swainstone Seedling, the most exquisite in flavor of all cultivated varieties.

Strawberry beds should this month be thoroughly cleaned; and towards June, the ripening month, some hay or grass should be shaken round the plants to keep the fruit clean. The ground, too, by this means retains its moisture, and weeds are hindered from springing up.

We intend, during the fruiting season, to make notes of new kinds introduced, and give our opinion of their qualities, &c.

Since the above was in type, we have received from Mr. Peabody, of Columbus, a box of fine plants of his new strawberry, referred to on page 44, (Feb. No.) The plants, which came in excellent order, we have put out in three localities, to give them a variety of soil and exposure, and shall watch them with considerable interest.

TIME OF PRUNING.

To the Editor of the American Agriculturist:

I notice much diversity of opinion in regard to pruning. As respects apple and cherry, experience teaches me that when blooming or in full flower, the branches, if smoothly cut, heal over perfectly sound. The tree is then in full vigor, and able to protect itself, while the leaves and blossoms shelter the wounds from sun and wind. The objection to Winter trimming, especially of

large limbs is, that the March winds check the end of the limb from one half to two inches in depth, allowing not only water to stand in the crevices, but also forms a reservoir for the rising sap, which it is well known becomes a strong acid, producing rapid decay, and cannot easily be arrested until it reaches the root of the tree. Nine-tenths of the old orchards have been ruined in this way.

Most if not all shrubs should be pruned when in the growing state. Shoots or suckers will not put forth as in the case of Winter pruning.

Respectfully, yours,

GEO. NEWELL,

NEW-YORK, April 13, 1857.

THE CABBAGE PATCH.

That was a memorable reply which the old Roman Emperor, Diocletian, after he had abdicated, made to Maximian, when he proposed to him to resume the crown :

"Would to God you saw the cabbages I am raising! You would never want me to be Emperor again!"

He had a magnificent palace at Spalatro, commanding a fine view of the sea, and surrounded with rich vineyards and corn-fields. He had a rural population for neighbors, and from being an anxious Emperor he had become a jovial cultivator of the soil. In the fertile borders of his vegetable garden, and amid the straight rows of his Drumheads and Savoy's, he found a satisfaction that the serried ranks of his army had never yielded him.

Whether the eulogy of the cabbage by the old Roman has hallowed it in the esteem of great men, we are unable to say. Certain it is, that it has become a great favorite with our ex-Presidents—the type of elegant leisure and enviable seclusion from the cares of state. To grow cabbage, is the goal of an honorable ambition among men of distinction, and among those without it. Crowned heads have added new laurels to their brows, gleaned from the cabbage patch; and unerowned ones may gather from its humble borders something more coveted than laurels both by the titled and by the obscure.

Cabbage growing is a money-making business if skilfully followed, and as such we have a few words to say in behalf of this humble plant. The time of sowing Early Yorks is of course past for this season, and if that has been neglected, your only resource is the market gardener, or some thoughtful neighbor, who has the coveted plants in just the right condition. For love or money you may procure enough of these for a family supply, and by setting the first of the month, you will have fine heads early in July.

But you are still in ample time for the main crop of cabbages to be harvested in August and September, and for the Winter crop to be gathered two months later. Select a good rich border of garden mold, and sprinkle on a half bushel of ashes to the square rod. Rake them in thoroughly and sow the seed, either broadcast or in drills, four inches apart. The object of the ashes is to destroy the larvæ of the insects that are prone to prey upon the Brassica tribe of plants.

These will be well up and fit for setting by the last of the month. When these plants are removed, it may be immediately resown to furnish plants for the last crop.

The cabbage is a rank feeder, and wants a deep rich soil, if you mean to make it pay. Avoid all stye manures, or composts into which they enter. The cabbage rarely escapes club-foot where this manure is used. It delights in a fresh soil, and we have found great benefit in bringing up the subsoil in old gardens where this crop is planted. For the small varieties, the rows may be twenty inches apart, and the plants fifteen inches in the row. The large varieties, like the Drumheads and the Bergen, want nearly twice that room.

When the plants are set out, they must be cultivated diligently. Once a week is none too often to hoe them. This makes them grow rapidly and obtain a larger size. The cabbage is a good succession crop to early vegetables, or by planting the early and late varieties in alternate rows, two crops may be gathered from the same soil.

LIMA BEANS—HOW TO START THEM.

The season is too short in many parts of the Northern states, to get a full crop of these beans, without assisting Nature a little in the Spring. This may be done, by raising the temperature of the soil, with warm fermenting manures, or by gentle forcing in a hot-bed.

A well trenched soil, filled with fermenting stable manure, is several degrees warmer than a soil compact and undisturbed. The last week in May is early enough to plant them. Put down the poles four feet apart in the rows running East and West, and three feet apart in the rows running North and South, and incline them a little to the South, to give the vines the full benefit of the sun. Make a slight elevation around the poles, and plant the beans with the eyes downward. Six beans to the hill are enough, and if all grow, pull up two of the poorest plants. This mode will enable many to raise this delicious bean, who have not hitherto succeeded with it.

Still further North, they may be cultivated by starting in a gentle hot-bed, or in the south kitchen window in a box. Take turfs from any swarded meadow, or road side, about a foot square, and three inches in thickness. With a trowel mark off the turf into smaller squares of about three inches upon a side. In each one of these little squares insert two beans, and then lay the whole sod upon your hot bed, or box in the window. In a short time the beans will come up, and the little roots will take possession of the sod. When the weather becomes warm in early June they may be removed to the open air, and set out around the poles. The middle of May, is early enough to start them in this way. Whether you use the hot bed or not the ground should be deeply worked, and made rich, that the beans may grow rapidly and mature early. This is unquestionably the best of pole beans, and no farmer, whose latitude will allow him to grow it, should be without it. In selecting seed, buy only those that have indented sides.



FLOWERS—ANNUALS.

There are a number of annual flowers which are indispensable to the garden. Some entertain the idea that these are of little beauty and less value, simply because they are annuals. This is a great mistake; many of them are of great beauty and rich fragrance, and are among the chief attractions of the green house and garden at all seasons of the year; and in the latter they make a gay show, even during the hottest Summer months. They have an additional value from the fact that, by being planted at intervals, they may be brought into bloom at any and all seasons, and thus, in one sense, become perennials. They are of every diversity of color and form, and thus all tastes may be suited. They are also of the easiest culture, and may be purchased for a trifle, so that even the poorest cottager may gather around his humble home some of these beautiful gifts of nature. Their habits, too, adapt them to every kind of soil and exposure, and there is no part of the garden where some of them may not be planted with advantage and effect. Some may be grown in clumps, some in beds, some against walls and frames, while others require to stand alone to develop fully their fair proportions and beauty. Such are some of their good points and qualities briefly told. The genera and species are very numerous, and they are natives of all parts of the world.

We shall now give a select list from such as we have grown; we could greatly extend it, but it is sufficiently large to meet the wants of all. To prevent disappointment, the seed should be purchased of reliable seedsmen. Of Balsams, Panzies, Asters, &c., only the choicest should be bought, even at a higher price.

The following nine may be grown singly or in clumps, if in clumps it will only be necessary to thin them out to a few inches apart.

- Sweet Alyssum, (*Alyssum maritimum*.)
- Chinese Pink, (*Dianthus annuus*.)
- Mignonette, (*Reseda odorata*.)
- Tassel Flower, (*Cacalia coccinea*.)
- Candytuft, (*Iberis* in var.)
- Globe Amaranth, (*Gomphrena globosa*.)
- Love Grove, (*Nemophila* in var.)
- Limanthus, (*Splendens*.)
- Gypsophila, (*elegans*.)

The following two may be grown in clumps or in beds, and in either case need only to be thinned out a few inches apart:

- Trailing Sanvitalia, (*Sanvitalia procumbens*.)
- Portulacas, (*Portulaca* in var.)

The following three are climbing plants, needing the support of the trellis or strings. It is better to plant them at once where they are to remain, and when up, thin them out:

- Cypress Vine, (*Ipomœa quamoclit*.)
- Umbellated Ambrosia, (*Ambrosia Umbellata*.)
- Morning Glory, (*Ipomœa* in var.)

The following 23 take up, individually, much room, and require to be grown singly, otherwise their beauty is not seen. Three or four seeds may be planted together, and

when well up, all but one removed; or they may be sown in drills and transplanted afterwards:

Oleander leaved Clarkia, (*Clarkia nectarifolia*.)
 Poppy, (*Papaver superbum*.)
 Sensitive Plant, (*Mimosa sensitiva*.)
 Adonis Flower, (*Adonis vernalis*.)
 Blue Ageratum, (*Ageratum Mexicanum*.)
 Mexican Poppy, (*Argemone grandiflora*.)
 China and German Asters, (*Aster in var.*)
 Lady Slippers, (*Balsaminus hortensis in var.*)
 Golden Bartonina, (*Bartonia aurea*.)
 Branching Larkspur, (*Delphinium consolida*.)
 Pansy, or Heart's Ease, (*Viola tricolor*.)
 Variegated Zinnias, (*Zinnia in var.*)
 Dwarf Nasturtium, (*Tropaeolum minus coccineus*.)
 Dwarf French Marigold, (*Tagetes nanissima*.)
 Catchfly, (*Silene in var.*)
 Jacobea, (*Tenecio elegans*.)
 Variegated Schizanthus, (*Schizanthus in var.*)
 Phlox, (*Phlox Drummondii*.)
 Ice Plant, (*Mesembryanthemum crystallinum*.)
 Ten weeks Stockgilly, (*Mathiola annua*.)
 Red and White Lavatera, (*Lavatera trimetris et alba*.)
 Blue Bottle, (*Centaurea cyanus*.)
 Marvel, of Peru, or Four o'clock, (*Mirabilis jalapa*.)

Annuals are planted in various ways; the best two are in straight drills, or in circles—we prefer the latter. A stick will answer to make the drills; the circular drill, however, is best made by the rim of an inverted flower pot. The label is to be placed in the centre. Very neat labels can be made of shingles, which split easily and regularly. A little white lead rubbed on the labels will prevent the names from being obliterated by the weather. It is sometimes recommended to write the names on a slip of paper, the latter to be placed in a stick with a slit in it, but it is more troublesome than the plan mentioned above, is not as neat, and the paper is generally destroyed with the first rain. By occasionally reading the labels you will soon learn to call the plants by name. This will greatly increase the pleasure of growing them.

The soil should have a light dressing of well-rotted manure, be broken up finely and finished off with a fine rake. Then plant the seed as directed above to the depth of an eighth to half an inch, according to the size of the seed; in fact, the smallest seed, such as *Portulaca*, should be left nearly on the surface, with just covering enough to prevent them from being washed away. The plants will come up thick, and must be thinned out, which should be done as soon as they are out of the seed-leaf, (the leaves which come up with the seed.) When about an inch or so high, those that require it should be transplanted. Do this, if possible, during rainy or cloudy weather. If the sun should come out hot, some of the plants may need to be shaded a little by placing over them a flower pot or a piece of paper. This need not be done unless they wilt a good deal, and then only for a few days. Larkspurs, and other tall growing plants, must be carefully tied to stakes as they grow.

Some of those marked to be grown singly and in clumps, may also be grown in beds, planted from six to twelve inches apart. Among the most suitable may be mentioned *Phlox Drummondii*, a lovely flower, always in bloom, and of diversified colors; *Gomphrena globosa*, an old favorite of much beauty and of long duration—if made into bouquets they make beautiful ornaments for the mantle during the whole Winter: *Portulaca*,

a very showy flower, of a low growing habit; *Sanvitalia procumbens*, a trailing plant, with showy yellow flowers, and several others. The seeds of all the plants named in our list may be planted in the open ground as soon as the weather becomes settled and warm. All of them, too, might be started in hot beds, but this is a trouble which comparatively few can take. When it can be done, it insures an earlier bloom.

In conclusion we would again urge our readers to make a selection of Annuals, and cultivate them with care, being assured that the pleasure will be more than a compensation for the small amount of labor required.

THE WINTER CHERRY (*Physalis Peruviana*).

Our article on page 35 has called forth a great number of inquiries, and we have received a few seeds from four different sources, all of which we shall cultivate as an experiment, and we hope to raise and get from other sources a quantity of seed for our next Annual Distribution, which will embrace a large variety of field, garden and flower seeds. The seeds have come to us under various names, such as *Physalis Peruviana*, Ground Cherry, Winter Cherry, Strawberry Tomato, Gooseberry Tomato, Shaker Gooseberry, Grosenberry, *Physalis alkekengi*, &c. The last name is the one given in botanical works, and it is so called by Gen. Mazaros, who brought over some seed from Hungary, where it was introduced originally from Arabia. This last is now cultivated by Edward Mitchell, Esq., of Flushing, N. Y. In reply to our letter of inquiry, we received the following from Mr. Goodsell, which came too late for our April issue:

... The plant is an annual, and propagates itself from seed. It has synonyms, though its proper English name is Winter Cherry. I have heard it called Ground Cherry, and in one instance Strawberry Tomato, yet there is another species of the same genus, which I have heard called Strawberry Tomato, but which is not worth cultivating. The plant grows to the height of two to three feet; stalk branching; leaves entire, and pubescent; fruit inclosed in an inflated calyx, pale yellow when ripe, and about the size of a Catawba grape.

This plant, as an edible, is of recent introduction in this vicinity, although I cultivated it twenty years since in my garden as a botanical specimen only, not knowing that the fruit was of any value. So it was with me in regard to the tomato: I had cultivated it many years before I tasted the fruit, or even heard of its being eatable, and now a man would be considered as lacking taste who should neglect to cultivate them for his table.

Since I commenced answering your letter, I called on a friend for the seeds I send you, as I had distributed every seed I had to applicants. They are merely dried in the fruit, whereas mine were washed out. This friend told me he had another variety (species), which were larger, but not as good. From his description of it, I concluded it was the *Pensylvanica*. This he called the *Gooseberry Tomato*.

N. GOODSSELL.

NEW-HAVEN, Oswego Co., N. Y., }
 March 19, 1857. }

A lie has no legs, but scandal has wings.

THE GOOSEBERRY.

In England, this is one of the most popular of the small fruits. The climate of that country is admirably adapted to its growth, and unusual care is bestowed upon its culture. The extraordinary specimens we read of are grown by professional gardeners, and even mechanics who emulate each other in competing for the special prizes offered for this favorite fruit. The plants are highly manured; only a few berries are left on each, and all the appliances of skill and experience are resorted to to bring them to the greatest size and perfection. It is the spirit of emulation which has elevated plant-growing to its present high standard in England, and we should be glad to see more of this feeling here.

It must be conceded that our climate is not the best adapted to grow the gooseberry in its greatest perfection: it is not sufficiently humid. This fact, however, instead of operating against the culture of this fine fruit, should stimulate our ingenuity and skill. Some persons love to battle with difficulties of this kind, and they are the ones who meet with success. The gooseberry would, however, soon degenerate, in size at least, even in England, if submitted to the same treatment that it receives here. It shares the same neglect as the currant, but bears it less generously. Its culture, without doubt, is more difficult than the currant, and disappointment often follows our best directed efforts. Plans and remedies without number have been submitted for consideration, all promising more or less success. We do not purpose discussing these various plans, but submit our own mode of culture, which is simple, and has afforded us a good measure of success. Mildew, the most formidable obstacle to success, has given us but little trouble under our present treatment; but we have occasionally had the berries on the south side of the bush literally "done brown" by the sudden appearance of a hot sun after a few days of cloudy or rainy weather. This, however, chiefly happens when the berries are near maturity, and may easily be prevented by a slight temporary protection or shade.

In planting, we dig a hole about three or four feet square, and about two feet deep, adding to the soil thrown out about one-third the quantity leaf-mold from the woods, and the same quantity of old, well-rotted manure, the whole being thoroughly mixed together. In filling up the hole, previous to putting in the plant, press the compost gently with the feet, to prevent the ground from settling too much afterwards. Procure young plants grown to a single stalk, and rub out the eyes from the roots and main stalk up to the point where you wish to form the head; say from six to twelve inches. In planting, spread out the roots, and press the earth around them. The after-treatment consists in pruning, manuring, and keeping the ground open and free from weeds. The pruning may be done during the winter, or left till early Spring. The fruit is borne on wood of the previous year's growth, and on old spurs;

and for this reason it is not advisable to shorten in the young wood, except to preserve the form and symmetry of the plant; but all branches that interlace and cross each other must be cut out, and the general pruning so conducted as to keep the head of the plant well open for the admission of air. When pruning, look for caterpillar's nests, and destroy them. We prefer to apply the manure in the Spring, and fork it in at once, using old, well-rotted barn-yard manure. The plants must be looked over occasionally for insects, and the more frequently the ground is stirred the better, if the roots are not injured. If large berries are desired, thin them out when quite small. We prefer an open exposure rather than against a fence, which is no place for the gooseberry; a little sunshine and free air will do it more good than harm.

Mulching of various kinds has been recommended to prevent mildew, but it is not always effectual. It is, however, useful in other respects, though we have not used it on the gooseberry in many years. Our present plan has succeeded without it.

The Lancashire varieties of red, white and green, are those usually grown under the names of Crown Bob, Whitesmith, Roaring Lion, &c. Houghton's Seedling, an American variety, has thus far escaped mildew. The berry is small, but the bushes are very productive, and the variety desirable.

The Dahlia.

We are of opinion that the Dahlia is usually planted too early. The florist is compelled to force his roots in order to furnish a large number of plants for sale. The amateur is under no such necessity. We will suppose the plants remain in a warm cellar, where they have spent the Winter. In the Spring they should be removed to a cool place, securely protected from frost. When they begin to grow take them out, if the weather is pleasant, and cover with a little earth. When the shoots have grown a few inches, the roots should be divided, so as to secure a tuber, or a portion of a tuber, to each shoot. If the tuber is large, cut away one half of it. They may then be planted in the spot where they are to grow, or put in pots to retard them. We do not plant till about the first of June, and some of the best Dahlias we ever grew were not planted till past the middle of that month. The proper flowering season of the Dahlia, is the Fall of the year, when the air is moist and most congenial to its habit. If planted too soon, it makes a strong growth before midsummer, insects attack it, and the strength of the plant is exhausted before its proper flowering season arrives. Very few perfect blossoms are seen in midsummer.

The soil of the Dahlia should be enriched by a little well-rotted manure; if the soil is sandy so much the better. The Dahlia requires some pruning. Not more than one shoot should be allowed to grow from the same tuber, and the side shoots should be trimmed away from the lower portion of the stem, say from six to twelve inches from the ground. If the head of the plant sets very thick, some of the shoots should be thinned out. If large and perfect blooms are desired, the buds must be thinned out while they are small, removing the weaker, and generally leaving only one or two buds on the same stalk. The soil should be stirred occasionally and kept free from weeds.

The Dahlia is a splendid flower, and deserves a prominent place in every garden. It blooms, too, at a season of the year when the garden has lost many of its attractions, and it can ill be spared.

We append a list of 24 choice varieties—12 fancy and 12 plain: FANCY—Beauty of Bath, yellow; Pre-eminent, dark plum; Le Phare, scarlet; Oriflamme, orange; Belle de Paris, blush; Gem, cherry; Gem of the Grove, dark maroon; Grand Duke, bluish lilac; Hyppolite, plum; Sir C. Napier, red; Summit of Perfection, plum; Blanche fleur, white. PLAIN—Admiration, white and scarlet; Constasy, buff red tip; Gloire de Kain, maroon, striped and spotted; Imperatrice Eugenie, white and purple; Triumph de Roubaix, amber, white tip; Beauty of the Grove, buff, edged with crimson; Elizabeth, lilac, white tip; Floral Beauty,

crimson, shaded with pink; Mrs. Hansard, yellow, white tip; Roi de Pontille, crimson, tipped with peach; Madame Zahler, buff, with crimson tip; Miss Hentworth, blush lilac, shaded with crimson.

The Chinese Potato (*Dioscorea batatas*).

HOW IT STANDS COLD WEATHER, AND HOW VALUED IN EUROPE.

Those who have read this Journal for two years past know the course we have advised in regard to this plant. We were, we believe, among the first to warn the community against investing their money in it, and we are sorry to say that our predictions in regard to it are proving true. We would much prefer that the plant should have turned out to be all its friends claimed for it. During the past month, in one of our "country rambles," we chanced to visit a plot in Flushing—the largest in the country, we believe, and as the public had been invited to examine it, we took the liberty to spend an hour with the workmen who were digging the roots which had been left in the ground over Winter.

On the plot referred to, which was planted last season, we found the tubers varying in size from a pipe-stem to an inch in diameter at the bottom, with an occasional larger one. The majority of them were not larger than our fingers. It has been claimed for the *Dioscorea* that it would endure the Winter, and continue to increase in size from year to year. We found, however, that very many of them were badly affected by freezing. Some were killed outright, while more of them were frost-bitten in one-half to three-fourths of their length or more. The frozen part resembled a common potato frozen.

This plot had been supplied with a coating of manure during Winter, and we were informed that this had smothered them, and been the cause of rotting. On returning home, we examined some roots in our own garden, which had been left in the ground over Winter. They were along the east side of a board fence, and somewhat protected by this, as well as by a snow-drift for most of the Winter. On digging them, we found all below five inches from the surface in a sound condition, but the parts above this depth were decayed. Some common potatoes left in the same ground, within three inches of the surface, came out sound. From these observations, and what we hear elsewhere, we think it about settled that they are, to say the least, no harder than our common potato. We do not yet perceive that they have any special claims upon public attention, beyond mere novelty.

There is still much said of their wonderful success, and the high value set upon them in Europe. On this point, we present the following extract from a letter just at hand, from Wm. H. Brewer, Esq., a reliable scientific gentleman, who is pursuing investigations in agricultural science in Germany and elsewhere. His letter is dated at Munich, Bavaria, April 1, 1857. He says:

.... "A word on the *Dioscorea batatas*. I have made inquiries when practicable, and find the opinion of it about the same that prevails among some of you in America. Professor Smith, Professor of Botany, and Director of the Botanical Gardens at Heidelberg, informed me that there, both in the Scientific Department and in the Heidelberg department of the Gardens, they had entirely failed to get such brilliant results as were heralded from France. He was not inclined to think the plant of any considerable practical value for Germany.... Professor Von Martius, perhaps among the first botanists in Europe, tells me that the experiments in the Botanical Gardens attached to the University here (Munich) were attended with similar results, and he was of the same opinion as Prof. Smith."....

Iowa—Seeking Western Homes—Good Advice.

From a communication to the *Christain Advocate* and *Journal*, by Rev. T. Spicer, referring to questions asked by his Eastern friends, we make the following extract:

"The State of Iowa is very extensive, its soil is very fertile, and its population is rapidly increasing. In 1840, its population was 78,000; it now exceeds 600,000; its increase last year was 224,000. It is estimated that last year, Iowa produced not less than 31,162,632 bushels of corn, and 2,014,383 bushels of potatoes. In answer to questions respecting the propriety of removing from the East to settle here, I have only to say; that to a young man, or a man in the vigor of life, who has a family of sons, who are inclined to agricultural pursuits, I think this country, especially Iowa, offers great facilities to become comfortably situated, and even independent; especially should he happen to locate near where cities or villages may hereafter spring up. But such must calculate to endure some privations for a few years to come.

"But I think a man somewhat advanced in life, and that has no sons, or whose sons are not inclined to agriculture, who has a good farm in the East, and is doing

well in his business, may as well stay where he is. These immense prairies are generally very fertile, and the agriculturist who understands his business, and properly attends to it, may become wealthy. He and his family may for a season feel lonely; but in all probability, in a few years there will be gathered around him all the comforts and conveniences of his early Eastern home. If he is religious, let him be careful to carry his religion with him, and be sure to maintain it, when he gets there. Let him "Watch and pray, lest he fall into temptation." I have understood that many remove into the Western country, who, not finding any organized Church, and but few professors of religion around them, forsake the assembling of themselves together for worship, and soon backslide. Let Christians beware. If you go, "Let your light shine, that others may see your good works, and glorify your Father in Heaven."

NOTICES TO CORRESPONDENTS AND GLEANINGS.

Ten articles from regular and transient contributors and a multitude of notes, answers to inquiries, gleanings, &c., are in type, waiting room. We wish to have all leading articles on hand a month, when practicable. We now go to press much earlier than formerly, and need time to prepare and arrange articles; and then the printers, stereotypers, folders, stichers, mailers and mail carriers must each have a little time to get the paper into the readers hands. Do not put off your contributions, queries, &c., until just as the paper is going to press.

Cucumber Bugs.—Dr. Heckerman, of Tiffin, writes: Most gardeners are very much annoyed by these bugs, which prey alike upon the cucumber, melon, pumpkin and squash—the latter being its favorite. Various plans have been devised for their protection, such as soot, &c. A method which I have practiced with nearly entire success, is to form a mixture of equal parts of finely ground black pepper and wheat flour, and dust the plants, while the dew is upon them with this mixture, using an ordinary flour or pepper box. It is a fact generally known, that black pepper is so obnoxious to most insects, that few will approach or stay in its presence. The object of the flour is to combine with the pepper, and with the water or dew to form a paste, which will adhere to the leaves for many days unless washed off by heavy rains; in which case the application should be renewed.

Hen Manure.—B. S., of Dutchess Co.—Poultry droppings, are without any doubt exceedingly valuable on almost all crops. The best three available manures, in our opinion are *finely ground unburned bones*, Peruvian guano, and hen manure. The latter if kept dry, pulverized and thoroughly mixed with four or five times its bulk of muck or earth, with or without plaster, is capital for putting into the hill with any seed. As a general thing we would advise the use of poultry droppings, directly around the seed. The best results we have witnessed were from adding to corn and potatoes a mixture of one bushel hen manure, one bushel plaster, one peck of air slaked lime. These were worked well together only as fast as wanted for use, and a large handful scattered in each hill and the seed put upon it and immediately covered. Pulverize this and all other manures as much as possible, so that they may be diffused evenly through the soil. It may be sown broadcast as a top-dressing, or be dug in around the roots of trees and plants. It can be economized by putting it with the seed, but can hardly come amiss, used in any manner.

The manure value of Guano and Yellow lupine for barren Soils.—From a letter from our Waterloo correspondent, S. W., we make the following extract: "The Count de Goucey, in a letter to B. P. Johnson, Secretary of our State Society, says: Within the last few years by the aid of Guano, four villages near Cloes, on the Rhine, with a population of 4,000, have become rich, expending now about \$100,000 a year for guano alone. (?) The Baron also tells us that another means of growing a crop on poor soils heretofore left uncultivated, from very barrenness, is to grow the Yellow Lupine, (I suppose *Lupinus luteus*). This plant has been cultivated of late with great success on the sterile wastes of Prussia, producing not only forage, but grain, containing as much azote (nitrogen) as Horse-beans. I think this species of *Ligininose* would be a desideratum on the thin sandy soils of Long-Island, and New Jersey. If it will grow on a soil too poor for clover, it undoubtedly collects more food from the atmosphere, and may supply the place of clover as a manuring crop."

Chip Manure.—H. H. Dean, of Vermont, inquires what he shall do with it. It will hardly come amiss for any crop. It is a good absorbent for other manures in the stables, yards and privies. It is a very good dressing for fruit trees, and for grass land.

Guano Experiments.—J. Mosely, of Mass. We shall give the substance of these in a subsequent number.

Grafting Wax.—R. S., Wisconsin. Two pounds of rosin, one pound of beeswax, with tallow or lard enough to temper it to suit the season. Stir well until all is melted. Work with the hands until white.

Hot-Beds.—"Juvenile Gardener" asks if hot-beds will succeed when made in the ordinary manner, without the sashes. The heat will not be retained without some covering, and that covering should admit light. The sash is also necessary to shield the young plants from outside frosts and storms.

Berry Plants from Seeds.—J. N. R. asks if Strawberries, Blackberries, Cranberries, &c., are produced from seed true to the varieties sown. They are not, although finer varieties are generally produced by seeds from choice kinds. It is better for cultivators, generally, to obtain plants of known varieties, rather than attempt raising from seed. Cranberry growing from seed, is answered by a noted experimenter, who says: "But raising vines from seed is uncertain, hazardous, and if you succeed you have a long time to wait for the fruit."

The Permanent Qualities of Flowers.—F. Schreiner, of Moss Grove, gives us the case of a Fox Glove, which changed the color of its flowers in the course of seven years from purple to white. "Our beautiful purple fox gloves are gone, and there has not been in all that time another fox glove, except our own within a mile of us. How do you account for it?"

This is what professional gardeners call a sport. There is a disposition in all flowers to be affected slightly by external causes, climate, soil, cultivation, manures, &c. But some plants have this disposition much stronger than others. The fox glove probably has it more than the Dahlia. We would suggest changing the fox glove to a new location in the garden to see what the result of fresh soil will be.

Corn for Fodder.—M. H. P., of Columbia Co.—We believe the general experience is in favor of planting or sowing in drills in preference to broadcast. If sown broadcast, it must be thin enough to allow the growth of much foul stuff, or the corn will not flourish, and then the weeds cannot be kept down by hoeing. Make the soil as rich as may be convenient, and put in drills 2½ or 3 feet apart, and give it as thorough cultivation as for a full crop of ears. The seeds may be put in say one or two inches apart, according to the richness of the soil and the probability of suckering. Corn planted in this way yields a great amount of valuable fodder. Many persons are intending to try a plot of the new sugar cane for the same purpose. It bids fair to excel corn, as the stalks are much more solid and full of saccharine matter, which is of a fattening nature. We shall see how this is the present Summer.

King Philip Corn.—L. Lewis, of Cayuga Co., says of this corn: "It is the best I have ever raised after an experience of fifty years with various kinds. It ripens early, has a small cob, large kernel and ears of good size. It ears well, and if planted three feet by two and a half a part, and well taken care of, it will yield 80 bushels to the acre. The seeds he inquires for he can probably procure in Auburn."

Wheat Culture.—D. W., of Washington county, Pa., wishes information on this topic. As he is a new subscriber, he has not read our former articles. At the appropriate season, we shall discuss this subject at length. Any hints from our readers thankfully received.

Silk Worm Eggs Wanted.—J. Laverell, of Bridge Valley, Pa., inquires where these can be obtained. We do not know. Will some one having them please write him direct, and also inform us.

Saving and Trying New Seed.—J. D. H., of Cold Spring Harbor, writing upon this topic, says: "In May, 1855, I received from a friend in Europe only four Sorghum seeds. These I planted, and raised seed enough to plant half an acre in 1856. One-half of this I fed, and from the remainder made 70 gallons of good molasses or syrup; sold \$130 worth of seed, and have enough left with which to plant twenty acres this year." Not a bad speculation on four diminutive seeds in two years.

Parsnep Wine.—Mr. Jno. Clarkson, of Milford, Pa., informs us that he makes a very good wine from parsneps by the following process: Let the roots remain in the ground all winter, if you like; by all means let them be well frosted. In the month of March, clean a quantity, cut them fine, and add one quart of water to each quart of cut roots. Boil them 1 to 1½ hours. Press out the liquid and strain it. To each gallon of the fluid thus obtained add 3½ lbs. of coarse sugar, stirring it well, and when sufficiently cool set it to work with yeast smeared over a piece of toasted bread. After 12 to 18 hours, put it into casks preserving sufficient to fill up the casks from time to time. When done working, close the bung tightly; let it stand until the following March and then rack it off into bottles, adding to each bottle a lump

of sugar of the size of a walnut. When sufficiently fine you will have a very delicious wine. Some use 4 lbs. sugar instead of 3½ lbs., and also use a lemon; but this is merely a matter of taste.

Dried Apples, Pies.—"A Buckeye Girl" sends us the following recipe: Let those who have the great privilege of drying their own fruit, prepare their apples for pies before they are dried. Free them from all skins and cores, then slice and spread on platters, and they will dry in a hot sun or by a cooking stove in less than twenty-four hours, without losing their natural flavor. Apples dried in this way will cook ready for use in a half hour, and with the usual seasoning of sugar, spices, &c., we have a pie that would take a pretty smart epicure to tell from a green apple pie, and besides, it is a saving of time, which is a great desideratum in the endless round of cookery.

Soap and Candle Making.—We have valuable communications from our fair Kentucky correspondent, "Mollie Broom," on these topics, which, with others of similar character, we shall find room for, now that Spring work in the garden and field will not demand so much space. We shall gladly surrender a due share of these pages to instructive hints and suggestions on household labors.

Beef or Pork Pickle.—An Illinois clergyman, furnishes us the following one, which he thinks can't be beat for goodness and cheapness: To every 2 gallons of water add 4 lbs. salt, 1 lb. sugar (or its equivalent in molasses), 1 ounce saltpetre; boil and skim and then add 1 ounce saleratus.

Coffee-making.—The same correspondent writes: An improvement in coffee-making is to frequently, say every three minutes, take it from the fire while burning and shake and blow out the hulls and dirt that come off by heating which will not be removed by the preliminary washing. Wife has tried various methods, and says the recipe on page 31 of this volume (Feb. No.) will be a perfect one, with this additional item in burning.

Indian Bread.—"Icenne," of Buffalo, sends us this recipe:

"Take 2 teaspoonsful of soda or saleratus, well pulverized; 1 quart of sour milk; 4 tea-cups of Indian meal; 2 tea cups of rye or Graham flour; ½ cup of molasses, and salt as needed. Bake 2½ hours.

"The soda in all cooking should be put into the cup in which the milk is measured, and well stirred, and from thence poured carefully into the pan it is made in; then small particles will not be found disfiguring the loaf. The above will make one nice thick loaf, baked in a two quart tin basin with a moderate fire. The last hour and a half, it requires but very little heat; if it bakes too fast on the top, as many stove ovens do, cover with an old three pint tin basin. Those who are "experienced" will understand why an old basin is better than a new one. When done, let it stand half an hour before attempting to take out of the tin; then do up in your bread cloth, and if you do not admit by the next day that it is the perfection of Indian bread, I shall call you no epicure in coarse diet."

Tooth Ache Remedy.—Mr. John McBradner, of Walton, sends the following remedy or palliative; clean out the cavity, and insert into it a little cotton dipped in a solution of Gum Copal in chloroform. To reduce inflammation, and swelling, rub thoroughly with a strong solution of one part common salt and two parts saltpetre in water. The gum and chloroform preparation we know to be good. The saltpetre and salt wash we don't know about. Alcohol, mustard, essence of pepperment, or better camphor solution with plenty of 'rubbing' is always good.

Big Apples and "Salt Junk."—Mr. Lydecker, of English Neighborhood, N. J., will please accept our thanks for a magnificent Fallenwalder Apple, left on our desk in our absence "as an evidence that in his locality they had got beyond 'Salt Junk.'" We consider the evidence perfectly conclusive. If such apples abound in English Neighborhood, salt meats must be at a decided discount.

Advantages of Taking the Papers.—"Experimenta," of New-Jersey, writes on this topic, on three varieties of paper. There are some good thoughts, and if the article were condensed into one-third of the space, we should like to publish it.

Salting Hay.—Albert Mackey, of Ulster County, is right about the diffusion of the salt through the whole mass of the hay. The analogy of salt on hams is a clincher.

A cheap way of Increasing Production
A legal friend writes us from

JONESBOROUGH, E. TENN.

..... Though engaged in a profession, I concluded I would also become a producer, and to effect it, adopted the following plan, viz., to procure subscribers to the Agriculturist. On the following page you will find ten, which makes fourteen I have already procured. I have read the Agriculturist for some time past and I am satis-

fied that each farmer, who takes and reads your paper one year, will produce as the result, at least twenty bushels more of something for human subsistence and comfort, worth at least ten dollars. This makes 280 bushels worth \$140. Why am I not a producer to this extent? Suppose each one of the 30,000 lawyers in the U. S., were to do this, (it has cost me in all say three hours time) you have produced 8,400,000 bushels, worth \$4,200,000. Are not small things too much neglected?"

Spanish and Dorking Fowls.—G. F. C., of Amenia, sends us a few good words in favor of these fowls. We have raised them for years and are inclined to think favorably of their merits. The hen fever has subsided.

Outlets for Drains.—"B." of Shelburn, asks if in underdraining a garden for fruit these are necessary. If the drains ever carry water they should have outlets. The pears and plums will do well on the clay portions if drained.

Dourah Corn.—C. S. Keep, of Monson, inquires if this article will mix with the Chinese Sugar Cane. It belongs to the same family and will hybridize readily. The sorghum should be planted at a distance from every thing else of the broom corn species.

Country Dwellings and Farm Buildings
—Communications, with drawings on these topics, are on file for examination. Let us have more of them, from different sources, that we may select and illustrate by cuts, the best plans for constructing plain, cheap, and yet comfortable and beautiful rural dwellings and out-buildings.

Manure Enquiries.—The letter of J. I. Paine, and many others of similar character, have not been specially answered, as most of the questions proposed are answered in the regular articles on manures.

New Books.

We have on our table several valuable new books, waiting a thorough examination and notice. We have looked through one of them carefully. It is entitled: A Practical Treatise on GRASSES and FORAGE PLANTS, comprising their Natural History, Comparative Feeding Value, Methods of Cultivating, Cutting, Curing, and the Management of Grass Lands. By CHARLES L. FLINT, A. M., Secretary of the Massachusetts Board of Agriculture, &c. Published by G. P. Putnam & Co., New-York.

This is, we think, the best treatise of the kind we have seen on this important subject. The various plants used as forage for animals both in a green and dry state, are fully described, and illustrated with numerous plain cuts. The method of culture is given in detail, with many practical suggestions. We advise our readers to get this book, and study it thoroughly, as we are now doing. We shall be happy to assist any distant subscriber in getting a copy. It can doubtless be sent post-paid, by mail to any one forwarding the retail price, \$1 25, as the postage amounts to about the difference between the wholesale and retail price.

Agricultural Exhibitions.

N. Y. STATE.—Next Annual Exhibition at Buffalo, Oct. 6th to 9th, inclusive. Send for full List of Premiums and Regulations to the Secretary, Col. B. P. Johnson, Albany.

U. S. Agricultural Exhibition at Louisville, Ky., Sept. 1st to 5th, inclusive.

The Cattle Murrain in Europe.

A fatal disease, which is said to be contagious, prevails very extensively among the cattle in the countries around the Baltic Sea. On the 2d of April the British Government issued an order in Council that hereafter no cattle, horses' hoofs or hides, shall be brought into the United Kingdom from any of the territories bordering on the Baltic or Gulf of Finland. This order was made after an investigation, and the subject is of no little importance to this country, as these hides, taken from the animals dying of the disease, being shut out from a nearer market, will doubtless be sent here in large numbers, especially as they had been previously prohibited in France, Prussia, and several of the German States. As this disease has prevailed for a year or two past, and it has not yet spread elsewhere, there does not seem to be so much cause for fear as there would otherwise be, yet we think the matter demands the prompt attention of our Government. A brief delay may lead to the introduction of a disease among our animals producing the loss of untold millions. The "hog cholera" is already creating much apprehension in some of our Western States.

A Correction.—On page 68, by an error in "making up," the Black Naples and Bang Up Currants got into the list of Gooseberries.

SALE OF DEVON CATTLE.—It will be seen by an announcement in our advertising columns, that Mr. Wain right, will hold his first public sale of Devons, June 17th.

Business Notices.

SUGAR CANE SEED.

LARGE

Special Premiums for New Subscribers

We recently embraced an opportunity to purchase at a reasonable price, a lot of

500 pounds of very fine

CHINESE SUGAR-CANE SEED

Direct from Count de Beauregard and Leonard Wray, Esq., of Toulon, France. This seed has not been surpassed in purity and quality by any yet offered in this country.

This we have secured for SPECIAL PREMIUMS (outside of our regular free distribution, which will still be continued).

Premium 1st—To each present subscriber who will send us one new subscriber for 1857, and \$1.27, (27 cents for return postage on seed), we will forward a premium of one-quarter pound of seed post-paid. (These packages contain about 5,000 seeds, and are of the same size and weight as those sold in very many places for \$1, or \$1.30 post-paid.)

Premium 2nd—For six new subscribers and \$6 we will send a premium of one pound of seed, post-paid, or two pounds if the seeds go by Express, unpaid. A pound contains about 20,000 seeds.

Premium 3rd—For ten new subscribers and \$10, we will send two pounds of seeds by mail post-paid, or four pounds by Express unpaid.

Here is a chance for conferring a triple benefit by a little effort—first, to those led to read the paper, by your solicitation—second, to yourself by securing a large quantity of pure seed; and third, to the *Agriculturist* by extending its circulation where it might not find its way but for your exertions.

In response to numerous inquiries we will state that we can recommend the Sugar-Cane Seed offered by two parties in our advertising columns, as being of pure and genuine quality; their whole supplies, we are confident, came from the same source as our own, alluded to above.

Plenty of Seeds for Distribution.

In our last we stated that our supply of Sweet Corn was running short. This announcement brought us offers of parcels from several individuals who had it on hand, but had not previously offered it for sale. We are now able to continue our offer of half an ounce or an ounce to new or old subscribers calling or applying by ready-directed envelopes, post-paid with one or two stamps. This offer extends to each kind hitherto proffered, viz.: King Philip Corn, Darling's Early Sweet Corn, Stowell's Sweet Corn, Poland Oats, and the Sugar Cane Seed. As we have scattered from seventy to eighty thousand or more packages of seed (we have lost count of the number), we suppose most of our present subscribers must have obtained what they have desired. If any are still unsupplied, let them send on at once, that we may close up the distribution as early as may be. It is of course unnecessary to hint that any favors from our friends in the way of new subscribers will be thankfully received. We now receive fifty to one hundred daily, and our clerks, who have learned how to take care of three to five hundred a day, are still on hand, ready for duty.

Losses of Seed by Mail.

Out of some 33,000 letters mailed to us this year, about 25 have failed to come to hand. At the same rate, about 60 losses by mail have occurred among the 75,000 to 80,000 packages of seed sent out by us. Let any one having failed to receive their expected packages, apply at once for duplicates; we have enough for all.

Seeds to Canada Subscribers.

We regret that our numerous Canada subscribers are obliged to pay so heavy postage (20 cents an ounce) on seeds. Let those residing near together make up a Club among themselves, and send for a pound or so, including such of the five varieties of seeds we have offered, and have them come by Express. They are welcome to the seeds so long as we have them, and where half a dozen send together, we will cheerfully make up an express package. An ounce each of the three varieties of corn and of the oats, and say one thousand seeds of the sugar cane, will make a package of 21 pounds for a Club of six, or 4 pounds for a Club of ten, on which the express charges will be but a few shillings, whereas the postage on 4 pounds amounts to \$12 80.

All of our Premium Seeds can be planted as late as the middle of May in most parts of Canada, and in the northern parts of the United States.

Back Volumes.

We have now spare copies of Volumes XII., XIII. and XIV. only. Price unbound, \$1 per volume, or \$1 25 if prepaid by mail. Price, bound, \$1 50 per volume, not available.

With a single exception, the actual regular circulation of the *Agriculturist* to subscribers is about Fifteen Thousand greater than that of any other Journal in the World devoted to Agriculture and Horticulture only.

Advertisements

TERMS—(invariably cash before insertion):
Twenty-five cents per line (of ten words) for each insertion. By the column or half column, \$30 per column for the first insertion and \$25 for each subsequent insertion.
Business Notices Forty cents a line.
Advertisements to be sure of insertion must be received at latest by the 20th of the preceding month.

STRAWBERRIES.

PARDEE'S MANUAL FOR THE CULTURE OF THE STRAWBERRY will insure success, and recommend the best varieties for the different soils and locations. Price.....60 cents.
Sent by mail, postage free, on receipt of price.
C. M. SAXTON & CO.,
Agricultural Book-Publishers,
140 Fulton-st., New-York.

EVERGREEN TREES.

BEAUTIFUL HOMES AND THE charms of Summer verdure amid the dreariness of a Winter landscape can be obtained by the judicious use of EVERGREENS.

The best time to transplant them is early in MAY.
The most desirable variety is the NORWAY SPRUCE, both for single specimens and masses. It bears transplanting well, and is a general favorite.
The WHITE PINE ranks next, and, after them, come other varieties like the BALSAM FIR, AUSTRIAN PINE, ARBOR VITAE, PINUS EXCELSA, &c., while for rich glossy Evergreen Shrubbery, the RHODODENDRON is unequalled.

All these are furnished by

PARSONS & CO.,
FLUSHING, N. Y.,
(near New-York City.)

Whose Catalogues can be obtained by mail, or at 29 Wall-street (basement), New-York
Trees will be carefully packed and delivered at Fulton Market wharf, New-York.

AGRICULTURAL SEEDS.

THE SUBSCRIBERS OFFER THE following seasonable Seeds, the growth of last year and of unsurpassed quality. Dealers and others requiring large quantities will be served at very low rates:

- Best quality Red Top Turnip;
- Red Top Strap Leaf do.
- Large White English Globe Turnip;
- do. do. Norfolk do.
- Long White Tankard Turnip;
- Yellow Stone do.
- Yellow Aberdeen do.
- Best American Improved Ruta Baga Turnip;
- Imported do do.
- do. Purple Top do.
- And twenty other fine varieties of Turnips.
- Early Scarlet Horn Carrot;
- Improved Long Orange do.
- Long White do.
- White Sugar Beet;
- Yellow do.
- Long Red Mangel Wurtzel Beet;
- Yellow Globe do.

Fine Mixed French Grass Seed, and other mixtures for Lawns. Also the finest qualities of Red, White, Dutch, Lucerne and other CLOVERS, TIMOTHY, RED TOP BLUE GRASS, ENGLISH and ITALIAN RAY GRASSES, ORCHARD SWEET-SCENTED VERNAL, the FESCUES and other GRASSES, with a large and complete assortment of VEGETABLE, FLOWER and FIELD SEEDS, of the best qualities, at reasonable rates.

Catalogues on application.

JAMES M. THORBURN & CO.,
15 John-street, New-York.

FIELD AND GARDEN SEEDS, AGRICULTURAL and HORTICULTURAL IMPLEMENTS of the most approved patterns.

Farmers will find it to their advantage to call and see our **LITTLE AMERICAN MOWER and REAPER.**

It weighs only 450 pounds, light draft, no side draft, and warranted to give satisfaction. Sold at the low price of \$100 as a Mower; \$120 as Mower and Reaper. Sold by **GRIFFING BROTHER & CO.,** 60 Courtlandt-st., New-York.

FAMILY COW FOR SALE—A VERY superior milker of the Durham breed, large size, handsomely formed, and perfectly gentle 7 years old Price \$125. Apply to **JOHN C. JACKSON, III Water-st., New-York.**

CHICKEN and HOG FEED—FOR sale, a quantity of Beef and Pork Scraps, a superior and cheap article for swine and poultry, also for manure. **WILLIAM C. HALL, No. 432 Ninth Avenue, New-York.**

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FIELD AND GARDEN SEEDS.

A FULL ASSORTMENT OF THE choicest Foreign and Domestic Field and Garden Seeds, raised expressly for my trade. All genuine and of the best kinds. For sale wholesale and retail.

SORGHUM SACCHARATUM, or CHINESE SUGAR-CANE, both of foreign and home growth, put up in dollar packages, with printed directions for planting. Also, by the pound or in larger quantities.

KING PHILIP or BROWN CORN.
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LARGE SOUTHERN CORN.
WHITE and YELLOW FLINT CORN.
DARLING'S EXTRA EARLY SWEET CORN.
EARLY TUSCARORA CORN.
EVERGREEN, DUTTON, POP and other varieties.
POLAND and OTHER CHOICE SEED OATS—The best in market.

SPRING BARLEY—Extra choice quality.
SPRING RYE.
SPRING WHEAT—Fife, Tea, Golden Drop, Canada Club and Black Sea.
POTATOES—Prince Albert, very superior. Dikeman, Early June, Ash Leaf Kidney, Mercer, and other choice varieties.
SPRING and WINTER VETCHES, BROOM CORN.
PEAS of every choice variety, BEANS ditto.
GRASS SEEDS—Timothy, Red Top, Kay, Orchard, Blue Sweet Scented Vernal, Foul Meadow, &c.
CLOVER—Large and Medium Red, Dutch White, Lucern or Alfalfa, Alsike, Cribsun, Sanfoin, Sweet Scented.
MILLET—Extra clean for sowing.
FLOWER SEED and HERBS—All new and valuable varieties.

RED and YELLOW ONION SETS—Top or Button Onions, Potato Onions.
APPLE, PEAR and QUINCE SEEDS, PEACH Pits, &c.
OSAGE ORANGE—Yellow and Honey Locust, Buckthorn.
MUSHROOM SPAWN TOBACCO SEED—Havana, Virginia, and large Connecticut Leaf—all choice varieties.
BIRD SEED—Canary, Hemp, Rape, Maw and Rough Rice.

GRAFTING WAX, WHALE SOAP GUANO and SUPERPHOSPHATE OF LIME, in small packages of 25 cents each.
FORCING GLASSES, SYRINGES, and a full assortment of **HORTICULTURAL IMPLEMENTS, VINE and FLOWER SCISSORS, GRASS and HEDGE SHEARS,** &c. &c.
STRAWBERRY, CURRANT, and RASPBERRY SEED.—Lawton Blackberry, Red Antwerp, Pastoff and Franconia Raspberry, Hovey's, and other choice Strawberries, Cranberry, Pie, Plantor Rhubarb, Asparagus, Osage Orange, and other plants.
Fruit Trees and Shrubs of all kinds, in the best condition, furnished to order.

Catalogues furnished on application.
BOOKS—A choice variety of standard works on Horticulture, Agriculture, Trees, drainage, &c., &c.
R. L. ALLEN, 189 Water-st., New-York.

PARSONS & CO.,

FLUSHING, NEAR NEW-YORK.

OFFER FOR SALE AN ASSORTMENT of Trees and Plants which they have grown for the use of amateurs, and have prepared, by frequent transplanting and other modes, for success in moving.

They are of fine size and symmetrical form, and among them will be found
STANDARD APPLES of fine quality.
STANDARD PEARS, PLUMS and CHERRIES.
PEACHES, APRICOTS and NECTARINES, on Plum stocks and their own roots.
DWARF PEARS of fine form, and ready for bearing.
GOOSEBERRIES and CURRANTS, strong plants of the best sorts.

RASPBERRIES—FANTOLF, RED ANTWERP, FILLBASKET and other known sorts.
STRAWBERRIES of all the best varieties.
NATIVE GRAPES—ISABELLA, CATAWBA and other hardy varieties.

FOREIGN GRAPES—All the well-known sorts, with some new varieties of great excellence. These plants are propagated from vines that have borne abundantly for some years, and are known to be correct.
Great care is taken in the cultivation of Fruit trees, and none but those of the best quality are allowed to be sent out.

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Contains Trees of all sizes for lawns and streets, including Elm, Silver, Norway and Sycamore Maples, Catalpas, Lindens, Tulip Trees, Cypress, Larch, Willows, Ash, Abele, Oriental Plane and all the best varieties of deciduous trees.

It also includes Evergreens of fine size for single planting, and of small sizes at low prices, from one foot upwards, for massing; among them are Norway Spruce, Balsam Fir, Austrian Pine, Hemlock, White Pine, Scotch Fir and other varieties.

The best shrubs include many fine varieties at low prices, for massing, of which the *Rhododendron Catawbiense* can be particularly recommended for its fine evergreen foliage, showy bloom and perfect hardiness.

The ROSES are cultivated in very large quantity, on their own roots, of all the most rare varieties, and to those who purchase in quantity will be sold at greatly reduced rates.

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Contains a fine assortment of *Camelias*, grown as bushy, rather than tall, slender plants; and also contains all the well-known varieties of exotic plants and many rare sorts introduced from Europe annually. These are all carefully grown for those who desire plants of symmetry and beauty.

CATALOGUES of all the departments will be furnished on application. Great care will be taken in packing, and trees will be delivered in New-York and thence shipped as directed.

SUGAR CANE. CHINESE NORTHERN SUGAR

CANE.—A large supply of Seed of the very best and purest quality just received, and for sale at the **NEW-YORK AGRICULTURAL WAREHOUSE and SEED STORE.** It can be had by the quantity, or for \$2. Seed enough will be sent by mail, post-paid, to thorough planters, an acre, with directions for planting and cultivating accompanying each package.

R. L. ALLEN, 189 Water-st., New-York.
N. B.—The above seed is equal to any ever sold in this country; it was raised by and obtained from Count de Beauregard & Leonard Wray, Esq., of Toulon, France, who first introduced the cane from Africa and China into France, and thence through the United States Government into this country.

WHITE SUGAR CANE SEED. HAVING PURCHASED FROM MR.

WRAY his importation of CHINESE IMPHEE or SORHO SEED, grown in France under his own immediate inspection (the best insuring the utmost purity), and described editorially by Mr. Greeley, in "The Tribune," we offer it for sale in quantities, at ONE DOLLAR A POUND, and in packets, prepaid by mail, at 25 cents, 50 cents and \$1 each. This seed, so superior to any other in market, can be procured only from

J. M. THORBURN & CO.,
15 John-street, New-York.

Two Pounds required for one Acre.

THE CONCORD GRAPE.

THE ORIGINATOR OF THIS NEW GRAPE offers for sale a fine stock, raised from the parent vine. It has fully sustained its reputation as the

BEST GRAPE FOR OUT-DOOR CULTURE,

Having survived the last two severe Winters unharmed, where the Isabella, Catawba and other vines were killed to the ground. FOR SIZE, BEAUTY, QUALITY AND BEARING, It is unsurpassed. It is perfectly hardy, and has never been effected by rot or mildew, while it ripens from three to four weeks earlier than the Isabella, and two weeks earlier than the Diaua, in the garden of the proprietor.

The following are some of the testimonials that have been received from different sources respecting this grape:

"We have received from E. W. Bull, of Concord, a fine specimen of the Concord Grape. This new seedling is attracting much attention among horticulturists, and deservedly. It is a large and handsomely clustered Grape, and the flavor of the specimens we have tasted is superior to that of the Isabella."—Boston Journal, Sept. 1854.

"I have taken the liberty to give you the impressions my late visit to your garden produced in my mind. The exhibition of your new Seedling Grape, now laden with its luscious fruit, was to me perfectly satisfactory. The size, beauty, rich bloom and fine flavor of the Grape, fully answer the glowing descriptions that have been given to it. None can look upon the wondrously luxuriant vines, loaded with their rich clusters, without resolving to obtain one for his own garden." Rev. A. BULLARD, Cambridge, Mass., Sept. 19, 1854.

Mr. MILLER, of Calmdale, Pa., says: "Last Summer, when all our native and foreign vines lost most of their foliage, the Concord was the only vine which kept its foliage throughout."

"We tested at our late State Fair, several specimens of this new Eastern Grape, and were agreeably disappointed in it. The berries are from a fourth to a third larger than either the Isabella or Catawba; the bunches are larger and heavier; the vine is far hardier than any other of Northern origin; and the fruit ripens from three weeks to a month earlier."—HORACE GREENEY, New-York Tribune, Sept. 1854.

"I regret the Grapes I received from you did not keep longer. They gave the utmost satisfaction, and every good judge of fruit said they were decidedly better than the Isabella."—J. D. INGERSOLL, Iliou, N. Y., Oct. 1854.

"The most beautiful of the new hardy grapes is undoubtedly the Concord."—J. F. ALLEN, Report Mass. Hort. Society, 1854.

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1852, Sept.—"Seedling Grape from Mr. Bull, large, handsome and excellent."

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Fine, strong plants, at \$1.50 each; \$12 per dozen. Two years old, at \$2 each. Three years old, extra, at \$3 each. A liberal discount to Clubs and the trade.

Orders, with cash or good reference, promptly attended to.

Address E. W. BULL, Concord, Mass.

REBECCA GRAPE VINES

FOR SALE.

TO BE READY FOR DELIVERY BY the 15th of May, good strong Plants in pots, propagated from the original vine. Price \$3 each.

Those wishing to obtain this new and valuable Native White Grape, will do well to forward their orders at an early date.

WILLIAM BROCKSHANK, Prospect Hill Nursery (near Hudson), Columbia Co., N. Y.

GRAPES.

Now is the season for planting.

CHORLTON'S COMPLETE GRAPE-GROWER'S GUIDE

REEMELIN'S VINE-DRESSER'S MANUAL.....60 cents.
ALLEN ON THE GRAPE.....50 do.

Are works which should be in the hands of every one who has a vine to plant or prune. The increased produce of a single year will pay for them.

Sent free of postage on receipt of price.

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PARSONS & CO., FLUSHING, NEAR

New-York, offer for sale—

Norway Spruce, grown apart, symmetrical and bushy, 1 to 5 feet high, at \$8 to \$50 per 100;

Siberian Arbor Vite, 2 feet..... 40 do.

do. 2½ to 3 feet..... 60 do.

Cedrus Deodara, 4 feet..... 40 do.

Abies Morinda, 1½ do..... 50 do.

Rhododendron Catawbiense, 1 foot..... 50 do.

With many other varieties suitable for the trade, or planting in masses.

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WEBSTER'S QUARTO DICTIONARY.—Everybody knows about Webster's Dictionary, and every man, woman and child, ought to have access to it.

"It will tell you everything in regard to your mother tongue which you want to know. It shows you the words in all their aspects—giving you a sort of history of each individual that is in any way worthy of attention.

"Every farmer should give his sons two or three square rods of ground, well prepared, with the avails of which they may buy it. Every mechanic should put a receiving box in some conspicuous place in the house, to catch the stray pennies, for the like purpose.

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TO LOVERS OF FLOWERS.

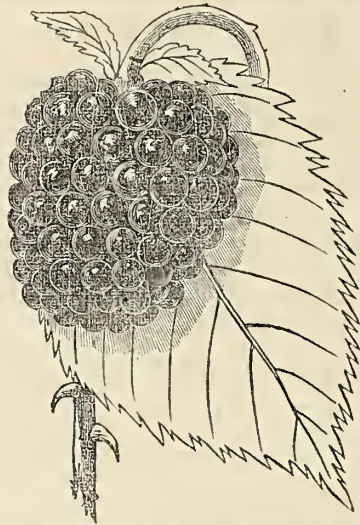
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BRECK'S BOOK OF FLOWERS.....\$1.25

Will give you the directions you need for selecting the rarest and best flowers, and for their successful cultivation. These are the best books for amateurs.

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THIS VARIETY IS UNIQUE, AND not as many suppose. "The New-Rochelle Blackberry," improved by cultivation. The plants which abound in that neighborhood are no better than the wild varieties to be found in every part of the country.

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Packages carefully prepared for safe transportation, will be sold at the following reduced rates:—Half a dozen, \$2; one dozen, \$3; two dozen, \$5; fifty plants, \$10; one hundred, \$18. Descriptive Circulars, and full directions for planting and cultivation, will be furnished with each package. The money should accompany the order, with name and directions distinctly written. Address

WILLIAM LAWTON, No. 54 Wall-st., New-York; or New-Rochelle, N. Y.

N. B.—Plants set out before May 15 will fruit next year.

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BLACKBERRY PLANTS

The Subscribers announce to their friends and customers that they have now

OVER SIX ACRES

of the

GENUINE LAWTON

BLACKBERRY PLANTS

under cultivation, and in good condition.

They are therefore prepared to fill large orders the coming FALL and the following SPRING.

PRICES.

\$18	per	Hundred plants.
\$10	per	Fifty plants.
\$5	per	Twenty-five plants.
\$3	per	Dozen plants.

N. B. All plants ordered of us will be TAKEN up and PACKED with the GREATEST CARE; and UNDER OUR OWN PERSONAL SUPERVISION.

Of the MANY THOUSANDS

sent out by us last year we have heard very few instances of failure, notwithstanding that they have been forwarded to EVERY PART OF THE COUNTRY.

and the setting out has often been entrusted to unskillful hands. Printed directions for setting and cultivating are sent with every package.

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THE ALLEN RASPBERRY.

I AGAIN OFFER FOR SALE A LIMITED

number of Plants of this excellent, thrifty, hardy RASPBERRY. They having been for the first time advertised last Fall, the supply then on hand for sale was mostly taken, and but a few are now left. Next Autumn, they will again be for sale.

LEWIS F. ALLEN, Esq., of Black Rock, N. Y., has for many years cultivated this fruit in the garden grounds (which I now occupy), on his Grand Island farm. It is allied to the Red Antwerp variety, but is not the "true" Red Antwerp of the gardens and nurseries. The bush grows much larger, needs no sort of covering or protection in Winter, and bears abundant annual crops of delicious fruit of the first quality.

Packages of ten to fifty Plants will be delivered at the Express Office in Buffalo previous to the first of May, at 10 cents the Plant. For packages of five dozen or more plants, \$1 per dozen. Remittances to come with the orders.

Address care of L. F. ALLEN, Esq., Black Rock, N. Y. THOMAS DUFF, March 21, 1857.

CHOICE FARM LANDS FOR SALE.

THE ILLINOIS CENTRAL RAILROAD COMPANY

IS NOW PREPARED TO SELL ABOUT

1,500,000 ACRES OF CHOICE

FARMING LANDS,

IN TRACTS OF FORTY ACRES AND UPWARDS,

ON LONG CREDITS, AND AT LOW RATES OF INTEREST.

THESE LANDS WERE GRANTED BY the Government to aid the construction of this Road, and are among the richest and most fertile in the world. They extend from Northeast and Northwest, through the middle of the State, to the extreme South, and include every variety of climate and productions found between those parallels of latitude. The Northern portion is chiefly prairie, interspersed with fine groves, and in the Middle and Southern sections timber predominates, alternating with beautiful prairies and openings.

The climate is more healthy, mild and equable, than any other part of the country; the air is pure and bracing, while living streams and springs of excellent water abound.

Bituminous Coal is extensively mined, and supplies a cheap and desirable fuel, being furnished at many points at \$2 to \$4 per ton, and wood can be had at the same rate per cord.

Building Stone of excellent quality also abounds, which can be procured for little more than the expense of transportation.

The great fertility of these lands, which are a black rich mold from two to five feet deep, and gently rolling—their contiguity to this road, by which every facility is furnished for travel and transportation to the principal markets North, South, East, West, and the economy with which they can be cultivated, render them the most valuable investment that can be found, and present the most favorable opportunity for persons of industrious habits and small means to acquire a comfortable independence in a few years.

Chicago is now the greatest grain market in the world, and the facility and economy with which the products of these lands can be transported to that market, make them much more profitable at the prices asked than those more remote at Government rates, as the additional cost of transportation is a perpetual tax on the latter, which must be borne by the producer in the reduced price he receives for his grain, &c.

The Title is Perfect, and when the final payments are made, Deeds are executed by the Trustees appointed by the State, and in whom the title is vested to the purchasers, which convey to them absolute titles in Fee Simple, free and clear of every incumbrance, lien or mortgage.

The prices are from \$6 to \$30.

INTEREST ONLY 3 PER CENT.

20 per cent. deducted from the Credit price for Cash.

Those who purchase on long credit give notes payable in 2, 3, 4, 5 and 6 years after date, and are required to improve one-tenth annually for five years, so as to have one-half the land under cultivation at the end of that time.

Competent Surveyors will accompany those who wish to examine these lands, free of charge, and aid them in making selections.

The lands remaining unsold are as rich and valuable as those which have been disposed of.

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Will be sent to any one who will inclose fifty cents in Postage Stamps, and Books or Pamphlets, containing numerous instances of successful farming, signed by respectable and well-known farmers living in the neighborhood of the Railroad lands throughout the State; also the cost of fencing, price of cattle, expense of harvesting, threshing, etc., or any other information, will be cheerfully given on application, either personally or by letter, in English, French or German, addressed to

JOHN WILSON,

Land Commissioner of the Illinois Central Railroad Co.

Office in Illinois Central Railroad Depot, Chicago, Illinois.

FARM FOR SALE,

IN BUCKINGHAM COUNTY, VIRGINIA.

THE UNDERSIGNED, WISHING TO

close his Farming operations in Buckingham County, Virginia, offers for sale, upon reasonable terms, or in exchange for city property, two valuable tracts of land, being within six miles of Buckingham Court House, and adjoining the Moseley & Garrett Gold Mines. One of said tracts contains about 230 acres, and known by the name of "Owen's Mills"—having about 100 acres at present in cultivation, with a growing crop of wheat, corn and oats, with half an acre of ground planted with vegetables, containing, in part, potatoes, beans, peas, onions, lettuce, &c., and enclosed with new fencing. There is on the place a small dwelling-house, and all necessary out-houses, such as stables, &c., with stock of horses, cattle and hogs; farming utensils, &c.; also a steam saw and grist mill, with engine of 35 horse power, and sufficient timber for the support of the place, if purchased separate. The other tract lies within one-fourth of a mile of the one first mentioned, and contains 216 acres, is entirely covered with timber, but well adapted to cultivation, the soil being of excellent quality. These lands are in a remarkably healthy section of the State, with an abundance of the best water, and being situated very near the Gold Mines, there is always a ready sale for produce of all kinds. The above lands I will sell low, for a part cash, and a long credit on the balance, or will exchange the whole for property in the city of Washington. The growing crop, stock, &c., I will sell in connection with the land, or separate, for cash, or on a short credit. Possession can be had immediately.

Address E. OWEN (now upon the premises), at Buckingham Court House, Virginia; or E. OWEN & SON, No. 212 Pennsylvania avenue, Washington.

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MILLET SEED—A new and fine variety, very hardy, resisting extreme drouth, and yielding a large quantity of the choicest forage, at the Agricultural Warehouse and Seed Store. R. L. ALLEN, 189 and 191 Water-st.

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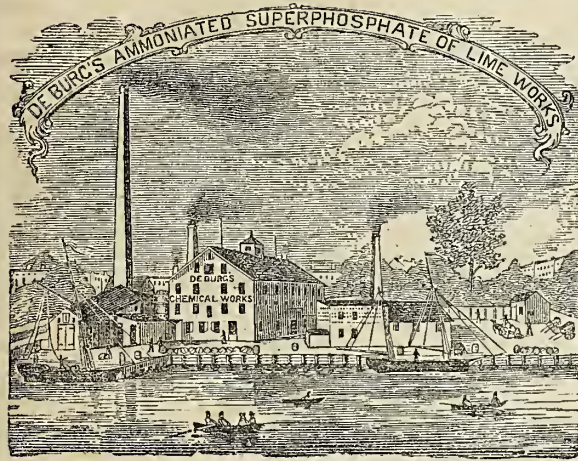
FLUSHING, NEAR NEW-YORK.

OFFER FOR SALE THIS SUPERIOR

variety of PIE PLANT, at \$10 per hundred, or \$800 per thousand crows.

**DE BURG'S
NO. 1
AMMONIATED SUPERPHOSPHATE.**

WARRANTED GENUINE.



BEWARE of unscrupulous experimenters and imitators of the above now acknowledged reliable Fertilizer.

The Subscriber tenders his sincere thanks for the liberal support he has received from the Agricultural community for the past six years, and further assures his patrons no exertions shall be wanted on his part to merit their continued support, by supplying them with a uniform article.

Perhaps one of the best proofs of the value of his compound, is the greatly increased demand, unprecedented in the history of Fertilizers, and not equalled by Guano itself. As there are a large number of Superphosphates in market, for the value of which he would not like to be responsible, he earnestly requests all purchasing, to be careful to get the genuine article from himself, or his accredited agents, to whom he holds himself responsible for its good character.

The increasing demand for this favorite Fertilizer still continues. Six years scrupulous trial, on all soils, and in all States, places its success, as a Fertilizer, beyond all problem.

Analysis and testimonials will be forwarded, on application to the Subscriber.

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Four blocks South of Peck Slip Ferry,
WILLIAMSBURGH, L. I.,
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FIRST PUBLIC SALE OF THOROUGHERED
NORTH DEVON CATTLE,**

TO BE HELD AT "THE MEADOWS," ON THE 17TH DAY OF JUNE, 1857.

THE SUBSCRIBER INTENDS HOLD

his first Public Auction of North Devon Cattle, on the above-mentioned day, at his residence, "The Meadows," four miles north of Rhinebeck Station, on the Hudson River Railroad, New-York. The animals to be sold will number between twenty and twenty-five head, males and females, from calves to full-grown, all of which have been either bred or imported by himself, and have perfect Herd-Book Pedigrees.

Catalogues, containing full Pedigrees, and all necessary information, will be ready on the 15th of April, and will be forwarded to all desiring it. The subscriber will be happy to have gentlemen visit his herd at any time.

All sales will be *bona fide*, and no animal on the Catalogue will be sold until the auction.

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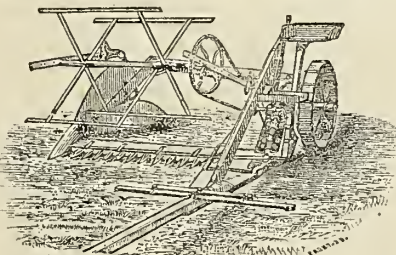
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The whole apparatus is SIMPLE, DURABLE, CHEAP, and everywhere applicable. A full DESCRIPTION may be obtained without expense, by addressing

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N.B.—The Patent Rights for several of the states, and also for counties, will be sold at a reasonable price.

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PERUVIAN GUANO—THE BEST

quality of Peruvian Guano, with Government weight and brand on each bag, by the cargo, or in smaller quantities, at the lowest price to be had in this market.

SUPERPHOSPHATE OF LIME.

Being agent for the most extensive manufacturers, I can supply a first rate article, at the lowest manufacturers' prices.

BONE DUST, coarse and fine ground, also sawings and filings.

POURETTE and TAFEU by the barrel.

PLASTER, &c. &c. &c.

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THE SUBSCRIBERS OFFER FOR

sale 40,000 Barrels of their
NEW AND IMPROVED POUURETTE,

Manufactured from the night soil of New-York city, in lots to suit purchasers. This article (greatly improved within the last two years) has been in the market for eighteen years, and still defies competition as a manure for Corn and Garden Vegetables, being *cheaper, more powerful than any other*, and at the same time *free from disagreeable odor*. Two barrels (\$3 worth) will manure an acre of corn in the hill, will save two thirds in labor, will cause it to come up quicker, grow faster, ripen earlier, and will bring a larger crop on poor ground than any other fertilizer, and is also a preventive of the cut worm; also, it does not injure the seed to be put in contact with it.

The L M Co. point to their long standing reputation, and the large capital (\$100,000) invested in their business, as a guarantee that the article they make shall always be of such quality as to command a ready sale.

Price, delivered in the city free of charge and other expense:

One barrel.....\$2 00
Two barrels..... 3 50
Five barrels..... 8 00
Six barrels..... 9 50

And at the rate of \$1 50 per barrel for any quantity over six barrels.

A Pamphlet, containing every information, will be sent (FREE) to any one applying for the same. Our address is

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DISEASES OF THE KIDNEYS
AND ALL DISEASES
ARISING FROM
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STOMACH;

Such as Constipation, Inward Stomach, Fullness or Blood to the Head, Acidity of the Stomach, Nausea, Heartburn, Disrupt for Food, Fullness or Weight in the Stomach, Sour Eructations, Sinking or Fluttering at the Pit of the Stomach, Swimming of the Head, Hurried and Difficult Breathing, Fluttering at the Heart, Choking or Suffocating Sensations when in a lying posture, Dimness of Vision, Dots of Wells before the Sight, Fever, and Dull Pain in the Head, Deficiency of Perspiration, Yellowness of the Skin and Eyes, Pain in the Side, Back, Chest, Limbs, &c. Sudden Flushes of Heat, Burning in the Flesh, Constant Imaginings of Evil, and Great Depression of Spirits.

The Proprietor, in calling the attention of the public to this

preparation, does so with a feeling of the utmost confidence in its virtues and adaptation to the diseases for which it is recommended.

It is no new and untried article, but one that has stood the test of a ten years' trial, before the American people, and its reputation and sale is unrivalled by any similar preparations extant. The testimony in its favor, given by the most prominent and well-known physicians and individuals in all parts of the country, is immense, and a careful perusal of the Almanac, published annually by the Proprietor, and to be had gratis of any of his Agents, cannot but satisfy the most skeptical that this remedy is really deserving the great celebrity it has obtained.

Principal Office and Manufactory, No. 96 ARCH-street, Philadelphia, Pa. And for sale by all Druggists and Store-keepers in every town and village in the United States and Canada

MARKET REVIEW, WEATHER NOTES, &c.

AMERICAN AGRICULTURIST OFFICE, New-York, April 24, 1857.

The Produce Markets exhibited no remarkable increase of activity, during the past twenty-four business days. River and Lake navigation has been resumed for the Season, and several of the Canals are open. The Pennsylvania Canals were in working order about two weeks ago. The New-York Canals are to be ready for navigation by the 6th of May. When all the avenues of reaching the sea-board shall be free, we may look for fresh supplies of produce from the interior, now very much needed, to replenish our stocks, which, by the Winter consumption, have suffered a serious diminution. Bread stuffs have been in good demand at rising prices, chiefly for home use. Shippers having had no encouragement to purchase, save what unusually low rates of freight have offered. Our available supply of Breadstuffs is quite limited—especially of desirable lots of grain. Cotton opened briskly and buoyantly, commanding 3c. per lb. over the closing rates of last month; but it is now freely offered at a rate not higher than four weeks since, yet it is not in much demand, either for home use, shipment, or on speculation. The present stock, here, is 81,500 bales, against 61,000 bales same date last year. Provisions were freely dealt in during the month. With increased supplies, hog products have decreased in value. Beef and beefhams have found ready buyers at strengthening prices. Butter and Cheese exhibited no important change. Groceries have been more sought after at somewhat firmer prices, with diminished supplies, available. The reported sales included a lot of 800 hhds. of New-Orleans Sugar, of the coming crop, (the product of an estate in Louisiana,) for delivery here next season, at 7 1/2c., 4 months—quality as usual in round crops. This sale is wholly of an unprecedented and speculative character—yet it betokens the confidence which is generally entertained in the future stability of the markets. Hay is arriving and selling pretty freely at rather higher quotations. Hemp, Hops and Grass seeds are depressed and declining, though the stocks in market are limited. Rice has been in lively demand at decidedly better prices, closing quietly, yet firmly, at the improvement in value. Tallow is heavy and lower. Tobacco is more inquired for at advancing quotations, with very moderate stocks, available. The latest accounts from Kentucky and North Carolina are of a discouraging tenor in relation to the prospects of the growing crop. Domestic Whiskey is somewhat brisker and dearer. Wool is dull and dropping, owners are willing sellers—but buyers will purchase only such lots as they can not do without, at the prevailing rates. No important change can be noticed in other commodities.

We annex a comparative list of the closing prices of the principal agricultural products, last month and this, showing the fluctuations since our previous issue:

Table with columns for product names and prices for March 26 and April 24. Includes items like Flour, Wheat, Corn, Rye, Barley, Hops, and various oils and seeds.

The subjoined tabular statement presents summaries of the total receipts of the leading kinds of Breadstuffs, by railroad, river and coastwise, and of the total sales, here, for twenty-four business days, ending to-day, as well as of the exports from the port of New-York for the same period:

Table showing Receipts, Sales, and Exports for Wheat, Corn, Rye, and Barley in bushels.

These summaries enable us to make the following comparison of the receipts and sales:

Table comparing Total 21 days this month and Total 24 days last month in bushels.

They also afford the following comparison of the exports, from the port of New-York, for twenty-four business days last month, and twenty-four business days, this month:

Table comparing Last Month and This Month for Flour, Wheat, Corn, and Rye exports.

The amount of grain remaining in the hands of Wisconsin farmers from the last harvest is represented as being three times as much as was held there at this season last year, and the bulk of it will come forward immediately on the opening of navigation.

Imports of Breadstuffs into Great Britain, during 1856:

Table showing imports from U.S. and other countries for Flour, Wheat, Indian Corn, Oats, and Barley.

This statement—compiled from a report recently presented to the British Parliament—shows that three fourths of the total supply of foreign flour was obtained from the United States, in addition to three fifths of the quantity of Indian Corn and more than a fourth of the quantity of Wheat.

CATTLE MARKET.—The receipts of Beef Cattle for four weeks ending April 22, were 11,705, or about 700 less than during the preceding four weeks. Receipts for the week ending April 1st, 3,195; 6th, 2,579; 15th, 3,326; 22nd, 2,605. Prices varied as follows, April 1st, same as last report; 8th, 1c. higher; 15th, no change; 22nd, 1c. higher—giving a total advance of 1 1/2c. @ 2c. for the month. Wednesday, April 1st, prices ranged: Premium cattle, 13c. @ 14c.; First quality, 12c. @ 13c. Medium quality, 11c. @ 12c. Poor quality, 11c. @ 11c.; Poorest quality, 10c. @ 11c. General selling price, 11c. @ 12c.; Average of all sales 12c. @ 12c.

Receipts of sheep during 4 weeks were only 14,116, showing a decline of about 11,200 for the month. This falling off is attributed to the fact that graziers obtain more for their sheep stock when the fleeces and animals are sold separately, than when sold together, and they are holding back till after shearing. Prices now range at 13c. @ 15c., and for extra unshorn animals 16c. per lb. dressed weight; the dressed weight being estimated at about one-half the live weight—and a little more than this for their superior fat animals.

THE WEATHER so far during this month has been very changeable, cold, with abundance of rain. Two or three of the late storms noted as rain here have been snow North and West. Farm work is being delayed by the cold and wet, so that the Spring may now be called rather backward. Our condensed Weather Notes read: March 28, to 31, mostly clear and mild; April 1, rain P. M.; 2, 3, and 4, clear with cool mornings, mercury 18° on morning of 2nd; 5, cloudy; 6, rain storm with wind and light snow at night one foot deep at Buffalo; 7, cool, ground frozen; 8, 9, clear and mild; 10, cloudy A. M. rain P. M.; 11, clear A. M., rain at night, 12, 13, 14, very heavy rain storm, abundance of water falling; 15, clear A. M., rain squalls P. M.; 16, clear and cool, ice A. M.; 17, 18, 19 cool with raw winds; 20 heavy N. E. rain storm, snow West; 21, cloudy A. M., rainy P. M., 22, cool and cloudy A. M., clear P. M.; 23, clear and very fine.

The storm on the 20th was a remarkable one, the snow fell to the depth of a foot or more in some parts of Central Pennsylvania and New-York. At Reading, Pa., the weight of snow above, broke down the Railroad Depot, and the same result was produced upon the Suspension Bridge at Rochester, N. Y.

WHEN MAILED.

It is impossible to print, fold, slitch and mail all of our present large edition in less than three days. The first copies of this (May) Number will be mailed to the most distant subscribers on Saturday, P. M., April 25. The remainder of the edition will be mailed on Monday, Tuesday and Wednesday, April 27, 28 and 29—those going the greatest distance being sent off first. All further delays must be charged to the U. S. Post-Office Department.

Copies Lost by Mail.

Are always supplied without charge.

CONTENTS FOR MAY, 1857.

Table listing various articles and their page numbers, including sections on Apiary, Beans, Bee Culture, Bovers, Books, Cabbage Patch, Calendar of Operations for May, Canada Subscribers, Carrots, Cattle, Chinese Potato, Clover seed, Corn, Currants, Dahlia Culture, Draughting, Evergreens, Flowers, Garden, Gooseberries, Grafting, Grape Culture, Grass, Green and Hot-House, Hedges, Housekeeping, Manures, Murrain, Orchard and Nursery, Pears, Plaster, Potatoes, Pruning, Root Crops, Rural Art Associations, Rural Surroundings, Seed, Sheep, Short-Horn, Soap, Soil, Strawberries, Sugar Cane, Sugars, Tim Bunker, Tomato Culture, Water Elevator, Western Homes, Wheat Fields, Winter Cherry, and WORK FOR THE MONTH.

American Agriculturist.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; IN-DOOR and OUT DOOR work around the DWELLING; care of DOMESTIC ANIMALS, &c. &c.

The matter of each number will be prepared with reference to the month in which it is dated, and will be promptly and regularly mailed at least one day before the beginning of the month.

A full CALENDAR OF OPERATIONS for the season is given every month. Over FIVE HUNDRED PLAIN, PRACTICAL, instructive articles are given every year.

The Editors and Contributors are all PRACTICAL, WORKING MEN.

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The paper is considered paid for wherever it is sent, and will be promptly discontinued when the time for which it is ordered expires.

All business and other communications should be addressed to the Editor and Proprietor,

ORANGE JUDD, No. 191 Water-st., New-York.

Personal Letters, or those for the Editor only should be marked Private.

Persons forwarding money by mail may consider the arrival of the paper an acknowledgment of the receipt of the money.

AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture.

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON.

ORANGE JUDD, A. M., }
EDITOR AND PROPRIETOR.

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VOL. XVI.—No. 6.]

NEW-YORK, JUNE, 1857.

[NEW SERIES—No. 125.

Business Office at No. 191 Water-st.
For Contents, Terms, &c. see page 144.
Notes to Correspondents, pages 139-40
For Business Notices, see page 141.
For Advertisements, see pages 142-3.

WORK FOR THE MONTH.

“ They come ! the merry Summer months
Of beauty love and flowers ;
They come ! the gladsome months that bring
Quick leafiness to flowers.
Up, up, my heart ! and walk abroad,
Fling work and care aside ;
Seek silent hills, or rest thyself
Where peaceful waters glide.”

We think the poet a little too fast in his exhortation to throw work and care aside, though there is strong propensity, in all who have their esthetic natures at all cultivated, to follow his counsel in this most charming month of the year. Every thing invites to out-door enjoyment now, but every nook of the farm and garden urges quite as strongly to work. There is perhaps on the American farm too much work and care, especially at this season, and too little opportunity to study the fervent work of Nature, which is going on now so rapidly in field and forest. Our climate has no doubt had much to do with the character of the cultivators of the soil. The Springs are long and tedious, and the ground is not in good working condition for two months after the Winter is broken. Then, when the April rains are over, and the soil becomes fit for the plow, every thing hastens to make amends for the cold and dripping skies. The sun comes out with intense energy, and winds from the northwest sweep over the fields, and dissipate the superabundant moisture. The farmer hastens to sow and plant, that the early crops may have the advantage of every sunny day. They come forward rapidly, and by the first of June almost every crop is pushing, and the weeds are calling for the cultivator and the hoe. It is impossible for any one who has any interest at stake in the field, to stand idle among the springing corn and roots. He catches unconsciously the fervid glow of the season, and hurries up the team as he threads his way between the waving rows of maize and the potato drills. Already the grasses are luxuriant in the meadow, and the wheat and rye are waving their plumes in the summer breeze, reminding him that the days of the sickle and the reapers are not far in the future. He feels that meditations upon Nature's work were better left to poets and philosophers, while he, if he would reap abundant harvests, must join her labors. Weeds are the de-

mons that disturb his meditations, if he have any, and nothing but a veritable hoe or cultivator will exorcise them.

There is undoubted truth in his view of the case, and he must put off the enjoyment of Nature's work, until his own is done. This seems to be a necessity of farm life, as it is now constituted in most parts of the land. Were it conducted on a larger scale, and with more capital and labor, so that the proprietor would find full employment in the work of supervision, he might enter more into the sympathies of the poet, and grow enraptured with the scenes of beauty spread out on every hand. As it is, the Summer's loveliness and light are not all lost upon the tillers of the soil. Readers and thinkers are multiplying among them, and many are found who appreciate both the flowers of the field, and the graces of rhetoric, who are as much at home in the shade with microscopic specimens, pencil and paper, as they are in the sunshine, with the hoe and the cultivator. We are glad to know that science is lending its aid to husbandry, and that the sons and daughters of the farm are pushing their explorations into other fields than those which bloom with corn and clover. Some of the most diligent students of botany and entomology are found among cultivators, and the whole class are growing more careful observers, and are constantly reporting the results of their experience in our journals of horticulture and husbandry, and are accumulating the facts which must be the basis of an agricultural science if we ever have one.

The increasing intelligence and thrift now abundantly apparent, in almost all the districts visited by our journal, are throwing new attractions around farm life, and creating new worlds of enjoyment. Old homesteads are so refitted and improved, that they would hardly be recognized by their former occupants. The weather colored clapboards and shingles are now covered with paint, and climbing roses are clustering between the green blinds of the windows. There are walks in the garden, and in the yard by the front door, sacred to the uses of hospitality, bordered with shrubs and flowers, showing that the potato is no longer the only idolized blossom of the farm. New planted orchards are stretching over hill-tops and meadows, and their first fruits are not far in the distance. Many have learned how to plant and to cultivate the finer varieties of fruits, and pears, peaches, plums, cherries and apricots are beginning to bloom in

companionship with the currant, once the only inevitable fruit of the farm-garden. There is certainly much more to be enjoyed in these improved rural homes than formerly, and every year, now, will add to their charms. He who plants a Norway spruce or other ornamental tree in a good position, and properly cares for it, lays the foundation of a new world of beauty and happiness. Every year will give to it new charms, and he will have before him a living book, in which to study what is beautiful in a tree. This contemplation of the beautiful in Nature is the proper reward of the husbandman's labors. A part at least of the graces of the objects he cultivates, is the work of his own hands, and this, perhaps, is one reason why we admire a fine tree in a lawn more than one in the forest. Art has assisted Nature, and enabled her to bring out more perfectly the constitutional qualities of the tree. But no cultivator will rest satisfied with the contemplation of what he has already accomplished in adorning his home. The very pleasure experienced from past attainments, as well as lower motives will impel him to new labors. Among the interesting events in this month is the

SHEEP WASHING.

This is regarded with peculiar satisfaction by young and old, and is almost a holiday for the boys. It is a release from the dull labors of the hoe, and the plow, and usually their first experience in bathing, for the Summer. Even the flocks partake of the hilarity of the scene, and are driven along to the river's brink with manifold bleatings of ewes and their lambs. Old Tusser says,

“ Wash sheep (for the better) where water doth run,
And let him go cleanly and dry in the sun :
Then shear him and spare not at two days an end ;
The sooner, the better his corps will amend.”

The place commonly selected for this business is a pond or stream, three or four feet deep, where the washer stands up to his middle in the water, and squeezes the dirty wool between his hands. Where a large flock is to be washed, there is a good deal of exposure to colds, in this long standing in the water, and in the olden time a free use of intoxicating liquors was made to guard against the evil. Both the evil and the remedy may be avoided, by the selection of a better place for washing. A small stream will answer the purpose, if there be fall enough. Throw across it a temporary dam, and put in a cheap flume made of boards, and the washers may stand on each side of the flume, and do their work with-

out wetting anything but their hands and arms. In case of small streams the flume may be partly boarded up at the lower end, to increase the depth of the water. This confining the stream to a narrow passage greatly increases the current, and the filth in the wool is carried off more rapidly. The building of the dam and flume is properly neighborhood work, and where it is shared by a dozen or more farmers, the expense is but trifling.

SHEEP SHEARING

requires some skill, and it is a barbarous practice to put fresh hands and boys to the work, unless they have a competent shearer to instruct them. The education generally costs the farmer much more than the service of shearing if he regard the thrift of his flocks. We have seen sheep that must have sat for Tusser's picture, when he advises

"Reward not thy sheep, when ye take off his coat,
With twitches and patches, as broad as a goat;
Let not such ungentleness happen to thine,
Lest fly, with her genitals, do make it to pine."

Farmers certainly ought to be content with taking the wool, without drawing blood before the whole sheep is handed over to the butcher. Flies frequently lay their eggs in these wounds, and the health of the sheep is seriously impaired. All wounds should be smeared over with grease, or marking paint, to protect them from the weather.

SPARE THE BEST LAMBS.

In this month, the butcher will begin to cast an eye of cupidity upon your most thrifty lambs. He will praise the excellence of your mutton, and tell you how much the South Down lambs are prized in the shambles. He will remind you of former good bargains, and will probably give you your price for all the lambs you have to spare. But you should early select the best for yourself, and assume as a safe principle in sheep-husbandry, that they are worth more to you for feeding and improving your flock, than for meat. When you have selected these, make the remainder as fat and saleable as possible.

We greatly need more mutton in our markets, and of much better quality, particularly in the Spring of the year. It is generally abundant and cheap enough in Fall and Winter, but now, legs, and saddles only smoke upon the tables of the rich. It is a wholesome meat, and can be raised, in most parts of the country, more cheaply than any other.

NEW PLANTED TREES

should receive careful attention this month. In all cases, they should be mulched. If starting well, they will grow more vigorously for the mulch. If not yet put out in leaf, they may be saved perhaps by mulching and watering.

EVERGREEN TREES.

It is not too late to set these in northern localities, the first of this month. It is generally admitted, that these do better when planted just as the buds are starting at the ends of the old wood.

THE HOE

is king this month, in field and garden, and just as it reigns lord of the soil will your

crops be remunerative. Keep the surface of the ground scarified as much and as often as possible. Let the hoes be light and convenient, and keep them well brightened with use. The horse hoes are coming into use rapidly, and will save much of the labor by hand. It matters little whether the ground be stirred by hand or horse power, if the work only be thoroughly done. Hoeing is to a certain extent a substitute for manure. The more fine you make the tilth of the soil, and the more you increase its evaporation by stirring the surface, the better will be your crops.

CALENDAR OF OPERATIONS.

JUNE, 1857.

[We put down here a summary of various operations, many of them very common ones, it is true, but a simple catalogue like this will often suggest a piece of work that would otherwise be forgotten. The Calendar is adapted to the latitudes of 41° to 42°. A little allowance must be made for each degree of latitude—later north—earlier south. This table will be made out anew every month and adapted to the season of each year.

EXPLANATIONS.—The letters f. m. l. refer to first, middle, and last of the month.

Doubling the letters thus: ff., mm., or ll., gives emphasis to the particular period indicated.]

FARM.

Hoe, Hoe, HOE, HOE, is the watchword for this month. If weeds get the start of growing crops now, they not only appropriate the fertilizing materials of the soil, and monopolize air and sun-light, but render the future labor of eradication much more difficult. Therefore keep the weeds down, and the soil loosened up, that the rootlets of plants may find permeable ground, air and moisture to grow in, and feed upon. Planting may still be done to some extent especially where failures have occurred.

Bark—Many farmers do a small business at peeling bark for tanners. This may be commenced upon the Hemlock and Oak, ll., even if it does not happen to be "upon the full of the moon." After drying for a few days, with the rough side out, pile away and cover in such manner as to protect from rain.

Barley may still be sown ff.

Beans—Plant ff. among corn, or by themselves.

Beets—Sow Sugar and Mangold Wurtzel for stock ff.

Buckwheat—Sow ll., or better next month, unless north of this. A light soil is preferable to heavy loam for this crop. Green sward turned over this month will make a good ground work.

Cabbages—Hoe early plantings f. m. and put out for late m. l. among potatoes, or other crops soon to come off. Use tobacco dust, dry ashes or lime to drive away insects.

Carrots—Hoe and thin m. l. They may still be sown ff. and will make excellent winter feed for cattle and horses. It is to be hoped that a good plantation of them was made early last month.

Clover—Plow in m. to manure the land, especially for wheat.

Corn may still be planted ff. at the north. Look to former plantings and make good any failures. Sow in drills m. for stock. Plow or cultivate and hoc m. l. Protect from crows by scattering upon the surface, corn soaked in strychnine water, by stretching lines, &c.

Cotton—Work and hoe f. m.

Draining—Continue as time will admit.

Fences—Have an eye to, repairing upon the first appearance of weakness or defect.

Grain will not require cutting before next month except at the South. Go over the "seed patch" and pull out 'cockle' and foreign grain.

Grass—Cutting of this will commence ll. Better begin a little early, especially if the weather is favorable and there is much to cut. The most suitable time for cutting Timothy is when the seed is in a dough state, and for clover just after the majority of heads are out of bloom. Anticipate a little, however, or some will get too dry before mowing. Look early into the feasibility of securing a mowing machine of the best kind.

Hoeing and weeding are the most important operations of the month, consuming more time on the farm, if properly done, than anything else. Assuming that the ground was in good condition, and the seed properly put in, it would now be very poor economy to allow weeds to appropriate what should form food for the growing crops besides choking out the latter. Therefore let no rust collect upon the hoes this month.

Hogs—Keep these from streets, highways, and even your own yards, that they may annoy neither yourself or neighbor by constantly getting where they are not

wanted, to say nothing of the loss of manure scattered about the premises. Breeders may properly have a moderate pasture or orchard range, but it is generally better to keep store hogs, and those for fattening in pens and yards making compost out of muck, woods and road scrapings, headlands, &c.

Manures—Collect and prepare for autumn use. Scrape the barn yards and throw the droppings in heaps, under cover if possible, each morning, spreading of plenty muck and a little plaster over them. Don't forget to embrace every opportunity to dig out and throw up to dry a large pile of muck or swamp mud for future use

Millet—Sow ff. m. for soiling.

Moles—These are unjustly persecuted animals, whose motives and acts are too often misconstrued. They are insectivorous animals often making incursions into corn-field in pursuit of grubs and worms, and not to prey upon the corn, as many suppose. They sometimes disturb the roots in their search for food, but the worms they destroy would injure the crop far more. If, however, the farmer is bent upon their destruction, let him poison them, by collecting a few fresh worms and put a little strychnine, or carbonate of barytes in powder upon them, keeping in a box for a few hours, when three or four of them may be laid in each mole run as it leaves the fence or hedge for the cultivated field. Repeat the dose as they are taken away, until the moles entirely disappear

Pastures—Divide into medium sized lots, and alternate with cattle sheep and horses. The hurdle system is worth looking into.

Peas—Sow ff. m.

Potatoes may still be planted ff. at the North, although it is likely all were put in by the first of May. Plow and hoe m.

Pumpkins—Plant ff. for stock. New ground is preferable. They may be put among corn or potatoes. This we have found a very profitable crop, especially on new ground.

Sheep were probably washed last month, if not do it ff. Shear in a week or ten days after washing, according as the weather is warm and dry. Time should be given between washing and shearing for the "yolk" or oil to give the wool a rich glossy appearance. Some shear as soon as dry, but we prefer giving them at least a week of good weather. Put them under cover after shearing, upon the approach of storms. Do not be too ambitious to take off a large number of fleeces in a day, at the risk of "nipping" the sheep here and there, making sores for flies to deposit their eggs in. A sore will often take off a dozen pounds of flesh or more. Cut the horns growing towards the head, and pare the hoofs if there is any appearance of rot.

Sugar Cane—Plant or drill the Chinese ff. m., for soiling. Where seed can be obtained, try a plot in comparison with corn for this purpose. Plow or cultivate, and hoe early plantings f. m. See two articles.

Tobacco—Keep fields well hoed and free from weeds.

Tools—See that those required for hay and harvest are in proper condition, such as mowing machines, scythes, cradles, forks, horse and hand rakes, racks, wagons, &c. If any of these are to be purchased, procure them beforehand, and put them in working order. If you have much hay and grain to cut, it is better to bring "horse power" to bear upon it. Purchase only those machines known to give good satisfaction.

Turnips—Sow Ruta-bagas and Swedes ll. or better next month, except at the far North. White, flat varieties may be sown f. m. l. for succession.

ORCHARD AND NURSERY.

There is but little to do in the Orchard at this season, save keeping the ground light about the trees, thinning fruit and killing caterpillars. Caterpillars and other insects neglected last month should by all means be looked at now. In some cases Summer pruning may commence the latter part of the month.

The Nursery grounds will need frequent plowing and hoeing, together with other operations given below.

Budding—Commence m. l. Tie the last year's buds to the stock, to secure an upright growth. Rub off all superfluous shoots.

Caterpillars—Destroy any omitted last month. If on twigs we prefer cutting the whole off, but on larger limbs use a pole and brush to twist into the nest and pull it down. Crushing the nests with the hands is the most effectual method we have practiced.

Evergreens—May be transplanted ff. to m. and later if earth is taken up with the roots.

Fruit—Thin where too abundant. Do not allow any to ripen on trees planted this season. One bushel of large fine perfect fruit of any kind, is better than twice that amount of small, poor, cracked, or prematurely ripened fruit.

Grafts—Look over and loosen any bandages which are binding the trees.

Hoe among nursery rows, and keep grass and weeds from growing about the trunks of standards.

Insects—Destroy eodling moth, curculio, scale, slugs, &c., according to directions on another page.
Layering and Inarching—Attend to m. l. See chapter on grape culture.
Mulch—Continue around newly planted trees.
Peach Trees—Examine and remove borers. Thin fruit m. l. where too abundant.
Pear stocks—Commence budding m. ll. if growing vigorously.
Plum Trees—Cut out all black knots, and watch carefully for the appearance of the curculio. See "Insects," on another page.
Pruning may be performed lightly ll. but mostly next month.

KITCHEN AND FRUIT GARDEN.

Much needs doing this month, such as the replanting grounds where seeds have failed, and in some cases even the first planting of a crop has not been done. The gardener is already reaping the rewards of a portion of his toil, being in market with his early vegetables. The grounds upon which some of these were raised may be cleared, and a crop of late vegetables planted. Hoeing, weeding and thinning are important labors for the month, and require unremitting toil.
Asparagus—Keep beds free from weeds, cutting only until the middle of the month.
Beans—Early kinds and even Limas may be planted ff.
Beets—Sow ff. for Summer and Autumn use, and f. mm. for Winter. Hoe, weed and thin early plantings.
Blackberries and Raspberries—Keep staked and the ground loose and free from weeds. Do not injure the young shoots which are for next year's bearing.
Cabbage—Plant out for late f. m. Hoe former plantings and search for cut worms. Renew any plants which have been destroyed.
Cardoon—Sow ff. Plant f. m.
Carrots may still be sown ff. Hoe and thin those sown last month.
Cauliflower—Treat as cabbage.
Celery—If not done last month, plant ff. shading from the sun.
Corn—Plant f. m. l. for succession. The last planting may be among early potatoes or crops soon to come off.
Cress—Sow f. m. l.
Cucumbers—Sow ff. for late. Dust with black pepper, soot, lime or guanó, to prevent the ravages of the striped bug; or cover with cloth frames.
Egg-Plant—Put out ff. for Autumn crop, planting beans or radishes between the rows.
Gooseberries—Keep well hoed and dust the bushes with sulphur if affected with mildew.
Herbs—Cut and dry when in full flower.
 "Hoing is both rain and manure," which are indispensable articles in the kitchen garden. The man who hoed his cabbages every day to beat his neighbor was surprised to find the plants of the latter kept ahead of his own. The secret was his neighbor hoed twice a day.
Insects—Wage incessant war against them, especially those preying upon fruit. See article elsewhere.
Lettuce—Sow and plant f. m. l. among other crops.
Melons—Plant ff. if not completed last month. The middle of the month is soon enough to plant for pickles.
Okra—Plant ff. if not done.
Onions—Hoe, weed and thin ff. m. l.
Parsneps—Weed and thin ff. m.
Peas—Sow f. m. l. for succession. Earth up and stick or bush early varieties ff.
Potatoes—Hoe ff. Arrange vines of sweet varieties.
Pumpkins—Plant ff. on well manured soil.
Radishes—Sow f. m. l. among beets and between the rows of other vegetables.
Raspberries—Treat as Blackberries.
Salsify—Hoe and thin ff. m.
Spinach—Sow ff. m. Hoe and cut former sowings.
Squashes—Plant ff. m. Protect from striped bug by dusting black pepper on the leaves while wet with dew.
Strawberries—Clean and straw the beds ff. m. Water in dry weather. Read chapter VI, in present number.
Thinning—Attend to generally. Inexperienced persons usually are ambitious to raise much from little ground, and leave their vegetables too thick. They can only attain a small size and the yield is proportionally small.
Tomatoes—Plant out ff. m. for late crop.
Turnips—Sow a few f. m. l. for Summer use. At the North the main crop may be sown ll.
Weeds should all be eradicated either by hand or with the hoe. Besides an unsightly, slovenly appearance, they impoverish the soil, and if not disturbed, will sow a crop for succeeding years.

FLOWER GARDEN AND LAWN.

The Flower Garden, if properly cared for last month, will now show a profusion of blooms, especially if Green and Hot Houses, Conservatories or Parlors, have contributed from their shelves. Roses will lend their beauty and fragrance, Carnations lift their showy heads, while

the modest Violet, many colored Verbenas and bright scarlet Pelargoniums in gay masses attract the eye. Fuchsias, Cinerarias, and the early blooming Annuals, interspersed here and there with hardy Azaleas, Deutzias, Syringas, Spiraeas, Peonias, not omitting the delicately superb *Dielytra Spectabilis*, and a multitude of other herbaceous plants and shrubs unite their charms to enliven the scene; to which add the lively shade of evergreens, the varied colors and freshness of deciduous trees, now clothed with luxuriant foliage, and we have a picture which may be contemplated with unfeigned delight. There is, however, work to be done.

Annuals will require thinning, weeding and transplanting. A few may still be sown on vacant grounds, or to take the place of flowers nearly out of bloom.
Asters—Sow ff. and transplant those put in last month. Box Edging may be planted ff. but May was a better month. Trim f. if not already done.
Bulbs—These are mostly out of bloom, and a portion of them may be lifted m. ll. If the bed was made anew last fall they may all remain the present season, at least. None should be taken up until the leaves have decayed which will be in four to six weeks after flowering. After lifting, cover for a few days with sand or dry earth, previous to packing away in boxes or on shelves. Sow the ground with annuals or plant from former sowings.
Carnations—Keep the flower stalks neatly tied to stakes, and shade from mid-day sun. Layer and put in cuttings to keep up a stock, selecting cloudy weather for this operation.
Dahlias—Plant out ff. m. and stake as required.
Evergreens may still be transplanted ff. m., watering at the time if the ground is dry, and give a mulch of straw or litter to each tree and shrub.
Gladioli—Plant ff. if not done last month.
Grass—Mow Lawns frequently, and shear edgings.
Gravel—Weed and rake walks, adding new gravel where necessary.
Hedges—Clip m. l. cutting evenly with pruning shears.
Mignonette—Sow and plant ff.
Oranges, Lemons and Oleanders—Bring from houses ff. and either plant in borders, or set the tubs or boxes in situations partially sheltered from the wind.
Pelargoniums and Verbenas—Plant in masses or on borders ff. m.
Pinks—Layer and plant cuttings f. m.
Potted Plants—Many of these will now be brought from the houses and may be planted on the borders or arranged in groups where the wind will not blow them over. If left standing in pots water frequently.
Roses will commence blooming in the open grounds f. m. and many brought from the houses are already in full flower. Propagate by budding ll. on new growth, inarching and layering at the same time. Destroy slugs with whale oil soap, or tobacco water, syringing freely. The rose bug will be offended by the application and leave in disgust.
Water—Give to all newly planted shrubs and trees, if dry weather sets in.

GREEN AND HOT HOUSE.

As most of the plants are now in the open grounds very little is to be done in the houses. The plants themselves, however, need much care and are particularly referred to, under "Flower Garden and Lawn." Some plants still remain inside and need plenty of air and water. Camellias may be carried out, but in large collections where a house is devoted expressly to these plants they usually remain on the shelves. The house needs airing thoroughly each day, if indeed it is closed at all. Turn the plants to secure an upright growth and syringe frequently, guarding against the approach of insects.
Cuttings of succulent and herbaceous plants may be put in, shading from the sun and covering with glass where practicable.
Grapes—See chapter on another page by a practical grower.
Inarch choice specimens which will not strike readily from cuttings.
Insects—These will constantly make encroachments within the houses, and fix lodgments for rearing their young broods. Destroy them by syringing the whole house, forcing the water violently against the walls, fumigating with tobacco and collecting by hand. It is far easier to destroy a few now, than whole broods when the plants are ready to be brought in, later in the season.
Potting of some plants may still be done and a shift to larger pots will in many cases be needful.
Roses—Plant in borders ff. for Summer blooming. Pot off seedlings, placing in shade, out of doors. Syringe for slugs as directed for pear and cherry trees elsewhere.
Water those plants remaining in pots daily and in some cases both morning, and evening. After rains if water is observed to stand upon the surface, turn the pot on its side and examine its drainage which will be found defective, and need rearranging.

THE APIARY IN JUNE.

BY M. QUINBY.

As soon as the bees begin to cluster outside the hive, it is time to put on boxes for surplus honey. If crowded outside, the boxes will not prevent swarming. Most of the swarm will issue in this month, except in northern latitudes. They usually leave the hive between 10 o'clock A. M. and 2 o'clock P. M., but sometimes as early as 7 o'clock and as late as 5 o'clock. When they issue, the tin-pan music to make them cluster may be dispensed with as well as all sorts of sweet herbs rubbed inside the hive, to make them like it; have it clean and hive them immediately. As soon as they are in, carry the hive to its stand—let the back side rest on the bottom board, raise the front side half an inch. *Protect from the sun* a few days.

The first swarm from a hive is usually large enough for a good colony; two such, (when many stocks are kept,) sometimes issue nearly at once and unite, making too large a family for profit. They may often be divided; the success of the operation depends on getting a queen in each division. If they are not separated, they may be hived together and boxes put on immediately. Second swarms are much smaller, two such should be hived together when issuing not more than two days apart.

As a general rule, third swarms should be returned to the parent stock. The least trouble is to hive them, and wait till next morning for the operation; then spread a sheet before the parent hive, one edge at the entrance, and shake out the new swarm on this, the bees will spread out on creeping up, and give a chance to see the queen, which should not be allowed to return. The parent hive will be worth much more as a stock for another year, and for surplus honey, and will repel the moth more effectually, which will amply repay the trouble. Third swarms seldom make stocks for Winter unless they are very early in the season. One strong stock is worth half a dozen feeble ones! Hence the advantage of returning, or uniting small ones.

The time to expect second swarms, is from nine to thirteen days after the first—very few exceptions. Third swarms, from one to three days after the second. As a rule all after swarms (those led out by young queens) will issue within eighteen days of the first.

Old stocks nearly alike in size, color, &c., standing close together, frequently lose their queen from 14 to 20 days after the first swarm. It may be known by an unusual commotion of the bees early the next morning. To save such stocks from ruin, another queen must be provided. One may often be obtained from a second, or third swarm; if not, a cell containing one, may be cut out of another hive that has cast its first swarm within a week. Blow some tobacco smoke under the hive, then turn it bottom up, drive the bees down among the combs with more smoke. Queens cells are usually on the edges of the combs—get one sealed over and finished, and introduce it into the queenless hive. The best place is at the top through a hole and between two combs—simply laying it on the bottom board will answer, if there are bees enough to keep it sufficiently warm. In a few days it will mature, and they have a queen much sooner than to rear one from an egg.

Books on Bees.—To Lewis Smith, Petersburg, Ill. The best two are LANGSTROTH'S, noticed in this number. Price \$1 50 (\$1 60 pre-paid by mail), and QUINBY'S *Mysteries of Bee-Keeping Explained*. Price \$1. Then we have in paper binding at 25 cents each, Phelps's *Bee-Keeper's Chart*; Richardson's *Hive & Honey-Bee, Weeks on Bees, &c.* These can be obtained of Saxton & Co., of this City, or by sending to this office. They will be forwarded post-paid by mail, on sending the retail price.

STATE AGRICULTURAL EXHIBITIONS 185.

Name.	Where Held.	Date.
Ohio,.....	Cincinnati.....	Sept. 15—18
Canada East.....	Montreal.....	" 16—18
Illinois.....	Peoria.....	" 21—24
Pennsylvania.....	" 29 Oct 2
Wisconsin.....	Janesville.....	" 29 " 2
Canada West.....	Brantford.....	" 29 " 2
New-Jersey.....	New-Brunswick.....	" 29 " 2
Vermont.....	Montpelier.....	" 30 " 2
United States.....	Louisville Ky.....	Oct. 1—6
Indiana.....	Indianapolis.....	" 4—10
New-York.....	Buffalo.....	" 6—9
Iowa.....	Muscatine.....	" 6—9
New-Hampshire.....	Concord.....	" 7—9
Kentucky.....	Henderson.....	" 12—16
Connecticut.....	Bridgeport.....	" 13—16
East Tennessee.....	Knoxville.....	" 20—23
North Carolina.....	Raleigh.....	" 20—23
Massachusetts.....	Boston.....	" 21—24
Maryland.....	Baltimore.....	" 21—25
Alabama.....	Montgomery.....	" 27—30
West Tennessee.....	Jackson.....	" 27—30
Virginia.....	" 28—31
South Carolina.....	Columbia.....	Nov. 10—12

A REQUEST.—In our July number we wish to publish a condensed but full list of not only State, but also of County Agricultural Exhibitions throughout the Country. Will our readers at various points please forward us at once the time and place of their several Exhibitions for the ensuing Autumn.

RURAL SURROUNDINGS.

NUMBER IV.—THE PIGS.

Almost every country housekeeper, farmer or otherwise, keeps a pig. Farmers proper keep many, and the tendency is to an overstock of them. This fact, however, depends much upon the locality, the mode of farming pursued, and the marketable price of pork in the vicinity. Some, however, breed different varieties for sale as "stock" animals—for propagation solely—with which the pork market has little to do, and the mode of cultivation pursued on the place, perhaps less. This latter subject, then, is an independent matter altogether from that of which we now write, not proposing to discuss the pigs scientifically but economically, in a general farm way.

Our suburban farmer will, if he studies a proper economy in his husbandry, have more or less pigs—we will not say how many, but, according to circumstances, he may keep from one to a dozen. The number, to keep them profitably, and the profit is the only question we should ever consult in the pig line, should depend very much on the quantity of vegetable, or other offal, or pig food, made on the place, or which could be conveniently obtained in the neighborhood. For instance, if a distillery, brewery, starch factory, or other large producer of pig feed be near you, it may be profitable to feed several pigs; but if the support for them be drawn from your own place alone, the number should be strictly confined to what you can keep well without the purchase or consumption of much grain, for pork fed on *bought* grain does not, in the general run, pay.

These preliminaries settled, we will now look into the pen and see how the stock stands, and inquire into the mode of supplying that stock. As a rule, where three, four, or half-a-dozen pigs are kept, you should have a breeding sow. We are supposing you to live in a *christian* neighborhood where a stock hog of a good quality is kept, and his serving to be had at a reasonable rate; for, understand us, if your swine is not of a choice breed or variety, you had better have none at all. The outlandish, landpike, alligator, thistle-digging brutes that some people keep, and which usually disgrace our city and village streets, are worse than useless. Uneasy, ravenous brutes, they are not only a pest to themselves but a nuisance anywhere. There is no thrift, profit, or grace about them, and they should never be tolerated on a well-ordered place at all. Nor are we particularly fastidious about the breed, as to whether it be pure or mixed, Berkshire, China, Essex, Suffolk, Middlesex, or Mocha. A compact, quiet, well-disposed pig, is the thing we want; one that takes in flesh kindly, eats its meal, lies down and goes to sleep, as a well ordered pig should do, and our object thus far is accomplished. We would keep a breeding sow for these reasons: *One* hog can always be fed at small expense through the Winter. The wash of the kitchen, with the surplus milk, and a trifle of corn, oats or

other meal, will carry her through the Winter. You can command the time for your pigs to come. If you have a surplus, they can always be sold to your neighbors at a good price, reserving the best for yourself, from which you can have the choicest lard, besides hams, shoulders and joints, for smoking, and some capital side and body pork for family use, the value of which every good housekeeper understands, in various ways. The sow should produce her litter according to climate, say from February to April, not later, for the Spring pigs should be fed off in the late Fall or early Winter months, not exceeding ten months old at the longest. If the breed be good, they will be full, ripe and fit for slaughter at that age, and frequently at six to nine months. At six weeks to two months old they are fit to wean, and the sow may then bring you a second litter in August or September, which will serve for roasters, or sale as you wish. We would not Winter these late pigs, as, unless there are extraordinary advantages in the way of food, they will not pay. A sow from two to six years old usually breeds better than a young one; therefore, we would prefer, if a good breeder, to keep her in the business, unless she becomes vicious, in which event she should be fed off and slaughtered.

For accommodation of the pork department in its best way, if more than two or three are kept, a spacious, warm building, with a boiling apparatus for cooking food, is necessary,—that is, a pig house with two or three separate compartments, where they can be divided off, as age, different feeding, or other convenience may require; and to this should be added a little paddock, or grassy yard, with water in it if possible, although this latter article may be furnished in a trough. If they have the run of a yard they should always be *rung*,—anybody knows how to *ring* a pig,—and the best way we have ever practised, is to take a common horse nail, made half an inch longer than usual, run it up from the underside of the nose, and then, with a pair of pincers or pliers, curl over the point as compactly as possible, and the job is finished. The nail, what is left of it, will move freely up and down, and prevent their rooting equally as well as a twisted wire, and last a great deal longer. In the warm season this grass yard is healthier, and every way better for the pig than a close pen, giving him exercise and pure air, which he needs, as much as any animal on your place, although in himself a dirty creature. A warm dry bed he should always have, and enough to eat of good food. Besides the swill, and milk, and other slops, he is fond of grass, weeds, fish or other *fresh* animal offal—which, by the way, is no offence to the flavor of his own flesh—and a variety of food in general. Good well-cooked corn meal is the very best food to finish him off with, and if to this be added boiled pumpkins, and roots of any kind, it will be quite as well. Understand, the pig must be kept *clean*. If he be inclined to scurf or dandruff, an application of soft soap, with soft water, and a vigorous appli-

cation of the brush, will add to his health and enjoyments. He will lie down and receive the application with positive satisfaction; or, if that be too much labor, sprinkle wood ashes on his back plentifully just before a smart shower, and expose him to it for an hour and it will do the business. A clean-skinned pig will thrive far better than a scurvy one. Let him have a post in his pen to rub his sides on.

We do not commend the pig as one of the *companionable* inhabitants of the place, like the noble and gentle creatures enumerated in our previous essays, but as a necessary, economical and convenient appendage to every country establishment. Your Paddy neighbors, sometimes, regard them differently, sharing frequently the domicile of the house, door-yard and highway, in common. For these we have no sort of toleration, and in our own way of thinking, the pig should be always out of sight, and only to be found, seen and heard, when he alone is the object of search, sight or hearing.

MECHANICAL PREPARATION OF THE SOIL.

NO. III.—DRAINING.

[Continued from page 102.]

Before referring to the kinds of land needing draining, we will briefly allude to two advantages not referred to in our last.

7. Water, air and most other fluids do not *conduct* heat. Float a dish of alcohol on the surface of a vessel of cold water, and set it on fire. Now, though heat enough will be produced to boil the *surface* of the water, there will not be heat enough conducted *down* to melt a piece of ice lying but a few inches below the fire. We boil a kettle of water by putting fire at the bottom. The lower portions becoming heated, are expanded and made lighter, and rise up, while other colder, heavier portions sink down. In this manner heat is *conveyed*, or carried upward, and not *conducted* downward from particle to particle, as in solid bodies. The same is the case with air, the heated portions rise up. The sun's rays do not heat the air, but the earth and the air in contact with the soil rises and heats the air above, or rather changes places with it. The application of this to our subject is this: A soil filled with water will only be heated at its surface, the water being a non-conductor of heat prevents any portion from being heated except a little of the surface. But when the water is removed by draining, the soil itself will conduct the heat down and warm the roots of plants.

8. Water in changing to steam or vapor, secretes or hides a great amount of heat. Steam really contains more heat than melted lead, though but a small portion of this heat is *sensible* to the touch, or indicated by a thermometer. We can not stop to discuss this interesting anomaly, but merely state the fact to show why a little water remaining upon the soil, and constantly evaporating from its surface, is the cause of much coldness. Though rising merely as cold vapor it carries away an immense amount of heat

which should remain to warm and stimulate the roots of growing plants. Let us here sum up some of the more prominent

ADVANTAGES OF DRAINING.

1. Draining, by rapidly removing the water in the Spring and after heavy rains, and by warming the soil, is equivalent to lengthening the season, and gives a wider range of cultivated plants, a longer season for growth, and a longer time for plowing and working the ground.
2. Land freed from excess of moisture, expands much less in freezing, and the roots of Wheat, Clover and other crops remaining in the ground over winter, are not destroyed by winter-kill.
3. In hot weather, the circulation of warm, moist air through the open drains, condenses moisture in the cooler soil, and furnishes additional security against drouth.
4. The free access of air renders poisonous compounds of iron, manganese, &c., inert, and Clover and other deep rooted crops will not be killed, but they will continue to grow and flourish from year to year.
5. The depth to which the roots penetrate in soils freed from poisons and filled with air, secures to the plants sufficient moisture to withstand the surface effects of drouth.
6. Water by sinking through the soil into drains, is prevented from washing the surface into gullies, and from carrying away into streams the richer soluble portions of soils and manures.
7. The removal of the standing water allows warmth, which can not descend through a body of water, to penetrate farther into the soil.
8. By causing the water to descend into drains, instead of evaporating from the surface, another chief source of coldness is removed.
9. Rains in descending through the ground, carry the heat of the atmosphere with them, and thus warm the soil and roots of plants.
10. The presence of water causes soils to bake, so as to render them hard to work, and also to prevent the free growth and expansion of roots.
11. When all excess of water is removed, compact and clay soils become light and pulverized by working them.
12. The free circulation of air in the soil, carries in ammonia, and other fertilizing substances to the roots of plants.
13. The air circulating in the soil, decomposes vegetable acids and removes sourness; and the decomposed vegetable matter furnishes organic food for the growing plants.
14. The roots extend farther and deeper into the soil, get a firmer hold upon it, and draw nourishment from a larger area.
15. Removing the water from the pores, admits the air which is essential to the growth of the roots.

WHAT SOILS NEED DRAINING

The considerations above presented, show that there are very few soils, no matter how dry, apparently, which would not be improved by thorough under-draining. There are few so constituted at the surface and below, as to furnish all the advantages of a system of open under-channels. As a brief general rule we would say: go into any field, four or five days after a free fall of rain, and dig a hole three feet in depth. If after an hour or two any water collects and remains in the bottom, it may be considered as a settled fact that the soil will be improved by draining. The degree to which this will be beneficial may be judged of by the amount of standing water, by the quantity of rain which has previously fallen, and by the length of time after its fall to the period of making the examination. We have often made a survey of this kind during the driest Summer months when but little rain had fallen for many weeks previous, and yet at a depth of two to four feet from the surface, abundant moisture would ooze out from the sides of a hole; and sometimes this has happened when crops upon the surface were parched with drouth. The constant presence of the sub-water had prevented the roots from going down beyond a few inches, and from reasons previously; and now with a partial failure of the water near the surface, the

plant is left without adequate moisture to furnish a flow of sap to supply the evaporation from the leaves. Such soils must be drained to yield profitable returns for cultivation.

If water runs freely over the surface soon after a *light* shower commences, we may know that the soil is already filled with water.

Wherever a cellar drain is needed, we may know there is a compact soil below, which will keep too much water above it.

If during warm weather, and at a dry season, we find on digging down two feet that the soil is moist, or very damp to the touch, and forms a damp compact mass by working in the hand, this is a pretty certain indication that the soil suffers from an excess of moisture.

In searching for these wet spots, it will be readily seen, from the considerations above presented, that it is necessary to examine a great number of places in each field, and especially those that are less productive.

There are comparatively few soils which are of such a character that rain water, and that from melting snows, will readily settle down through them (not run off over the surface).

A little knowledge of "Geology,"—enough to understand the character and arrangement of the soils that make up the surface of the earth, would materially assist in the comprehension of this subject. A column or two devoted to this subject will not only be interesting, but afford much practical information both with reference to treating land, and selecting farms, and especially with regard to laying out and sinking drains. Let us inquire

How were soils originally formed, and how are the materials forming them arranged in the earth's surface?

The surface of our plants consists of large masses of water, and rocks covered over with various depths of sand, clay, pebbles, &c., called soil or earth. Sometimes this soil is hundreds of feet in depth, sometimes but a few feet or inches, and sometimes the rocks come to the surface. We usually find solid beds of rocks by digging down a few feet only.

The surface soil is composed of a vegetable (organic) part, and a mineral (inorganic) part. The organic part is merely decayed and decaying vegetable matter, such as leaves, roots, grasses, &c., which have in process of time become commingled with the earthy part. This is usually found only in a few inches of the surface soil; though in peat beds it often extends many feet downward. This organic or vegetable part—which can be readily burned off—usually constitutes but a small portion of the surface soil; while the rest, and all below, is a mass of earthy, inorganic matter, made up of sand, clay, gravel, large and small fragments of rocks, pebbles and large rounded stones, called boulders.

These soils—with the exception of the organic part—are entirely made up of broken, finely pulverized, and decomposed rocks; and were all probably once in the form of solid rocks. Whenever a stone of any kind is

exposed to frost, heat, rain, or a moist atmosphere, it is continually decaying; little particles of various substances, such as sand, clay, potash, lime, magnesia, &c., are wearing from its surface and these mingling together form new soil. All rocks and stones exposed to air are continually decreasing in size and weight, and never *growing* as some have supposed. Take from your field the very hardest stone, carefully clean, dry and weigh it, and lay it back in the field for a year or two, and again weigh it in the same manner, and if the balances are delicate, they will certainly show a decrease in the weight of the stone. A pile of rocks, or a stone fence, remaining for a short time only, will enrich the ground by additions of new soil. More than one-half of many soils are yet undecomposed, as may be easily ascertained by separating the finer portions with a sieve. The effect of plowing, Summer fallowing, ridging in winter, &c., is to hasten the decomposition of these, adding new soil from the gravelly portions.

To illustrate the manner in which our present soils were originally formed, gather from the field a quantity of large stones of various kinds, such as slate, granite, &c., wash them clean from adhering soil, and subject them to strong heat and sudden cooling a few times, and also to freezing and thawing. After they are thus in part broken into fine pieces, put them with water into a vessel and let them be agitated till the corners of the small and larger pieces are rounded. After this allow the mass to settle, and we shall have at the bottom a soil like that in our fields. In this case, the rounded stones will first fall to the bottom, the gravel next, the coarse sand next, and the fine sand and clay will settle last upon the top.

If at successive intervals, we pour portions of these mingled materials and water into the raised end of a long box, having an uneven bottom, there will be formed in the bottom of this box different layers of gravel, sand, clay, &c. The gravel will usually fall near the raised end, the coarse sand next, the fine sand next, and the clay and finest sand will settle last—in greatest quantities where the water is deepest, producing a clay soil; in less quantities with the lower sand forming a *clay loam*—that is much clay with little sand—and in still lesser quantities higher up forming a *sandy loam*—that is much sand and little clay—while some of the clay and fine sand will be mingled with the gravel. After a few additions of our new made soil, we shall have in that box a representation of the arrangement of soils on the earth's surface. Here will be clay, there sand; in this place gravel, and in that masses of stones: in one place clay loam, and in another sandy loam; and there will be successive layers of these, one above the other.

By similar processes, we suppose the loose materials of the earth's surface have been produced and arranged. "In the beginning," we may suppose the earth's surface to have been composed of various solid rocks. In long periods of time, by the action of volcanoes, heat, frosts, water, and air

these masses of rock were broken up, pulverized, decomposed, producing a mass of soil. Different kinds of rocks, such as granite, limestone, &c., produced different kinds of soil; and at some period every part of the surface of the earth has been covered by vast quantities of moving water, which have still farther ground and worn and mingled, and sometime separated these decayed masses of rocks, soils, &c., and left them as we now find them, sometimes in masses of pebbles or gravel with finer portions, sometimes bodies of sand, and again beds of clay, and in other places all these mingle together. These are however, more frequently deposited in layers lapping upon or underlying each other.

This arrangement is one of great importance in connection with the subject of draining. If we examine the side of a well while it is being dug, or the sides of a canal, or a railway excavation through a high bank of earth, we shall see good illustrations of this general arrangement below the surface. There are thin beds of clay, perhaps but a fourth of an inch thick, and others may be many inches or feet, and with these can also be seen beds of gravel, loam, &c. These beds do not lie in regular layers, like boards one above the other, but are very variable in their form; sometimes horizontal or flat but more frequently inclined or curved. Fig. 1 will give an idea of some of these arrangements.

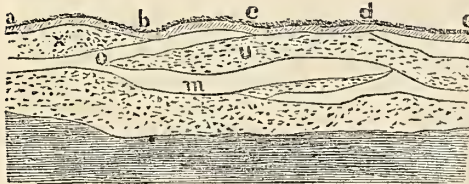


Fig. 1.

From a to e we have a thin layer of surface soil, mingled with organic matter. X is a loam subsoil, and the surface from a to b is the same with the addition of vegetable matter. O and m are beds of clay, and over these we have clayey surface soils. U is a gravelly loam with similar surface soil from c to d. These separate beds may be a few feet only in length, or they may each extend many miles.



Fig. 2.

Fig. 2 represents a valley, with portions of the adjacent hill-side lands. Different layers of clay, loam and gravel are shown coming out upon the side of the hills, and giving character to the thin layer of surface soil which extends over the whole. [The depressions, like the valley here shown, may be supposed to have been produced by currents of water washing out hollows. So the sides of the hills were probably washed away as shown in Fig. 3.]

Fig. 3 gives a section of a hill, in which a

similar arrangement is shown. In this, y is

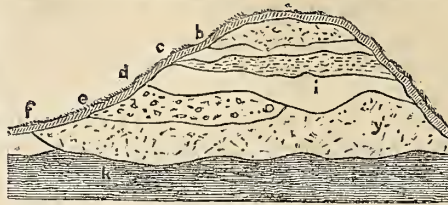


Fig. 3.

a bed of sand which may be found by digging down between e and f. These layers of sand are very frequent, and are dug out for building. The same may be said of the bed of gravel between d and e.

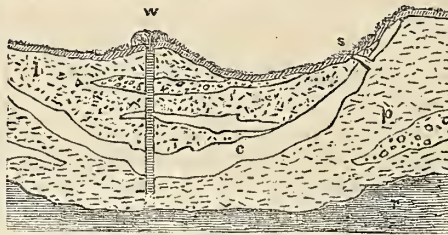


Fig. 4.

Fig. 4 shows a still different arrangement, in which l is clayey loam, enclosing beds of gravel and clay; c a curving bed of clay; p a porous mass of gravelly soil, of large extent; w is an artificial or artesian well; s a natural spring, and r the underlying rock.

There is another arrangement, however, which is much more frequent, and which deserves a careful examination. These different beds of porous and compact soil or rock are generally inclined at a greater or less angle, as shown in the following figure:

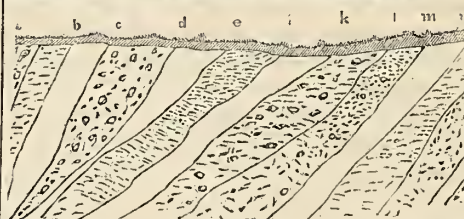


Fig. 5.

We can readily see here what is the effect of such an arrangement upon the surface soil. Over the finer, more compact subsoil, as between e and f, l and m, the water will sink less readily than over the gravelly portions between c and d, k and l; while over the compact clay portions between b and c, d and e, i and k, m and n, we should have wet, heavy land. We have seen single fields on which a dozen different layers came up to the surface and produced as many variations in the composition of the soil, and an equal number of wet and dry spots; and, again, we have seen places where some of these single beds occupied several miles of surface. Half a dozen farms may lie upon the upper part of each of these divisions, and in other cases we shall find all these beds of different soil cropping out upon a single farm. [To be continued.]

PROVIDE FOR THE TURNIP CROP.

Next month will be the time to put in seed for a large supply of roots for feeding next Winter. Do not use up all the ground for other purposes. Five hundred to a thousand bushels of ruta bagea turnips can be grown on an acre, and how can you get more or better Winter food for your stock?

PLASTER AND AMMONIA.

VALUABLE EXPERIMENTS BY PROF. PORTER.

One of the settled points in the theory and practice of soil culture is, that ammonia is a valuable fertilizer for all, or nearly all growing plants. It is this substance that gives so high a value to Peruvian Guano, to urine, to horse manure, &c. Every one is acquainted with ammonia as it escapes from the stables, from chamber slops that have stood for a few hours, and from "Hartshorn smelling bottles." It is also well known that this is a very volatile substance, which escapes into the air rapidly and is lost. To "fix" and retain the ammonia in manures is an important operation. This may be readily done by the addition of a little dilute acid, such as sulphuric acid, (oil of vitriol,) hydrochloric acid, (called also muriatic acid, and spirits of sea salt.) The inconvenience of handling these acids, and their expense, has always been an objection to their general use.

For several years past we have recommended adding to all kinds of animal manures a frequent sprinkling of sulphate of lime, usually called gypsum, or plaster of Paris. This is a compound substance, made up of sulphuric acid and lime. When brought in contact with substances containing ammonia, the ammonia takes the sulphuric acid away from the lime, and forms a new compound, called sulphate of ammonia, (sulphuric acid and ammonia,) which not being volatile, remains in the manure to be given up to plants.

But it has been asserted by many that the dry plaster added to a manure heap, or to guano, will not unite with the escaping ammonia and retain it. This is an important point, and although we had settled the matter to our own satisfaction, by a number of experiments made three or four years since, last winter we requested Prof. John A. Porter, (Professor of Organic Chemistry in Yale College,) to make such experiments as might be necessary to settle the question. We give his reply below. It will be observed that the mass of horse manure experimented upon, was placed in the same condition as a heap of stable manure, viz.: a moist or fermenting portion below, with a dry portion over it. We will here repeat our oft-given advice, to always have at hand a barrel of plaster, and mix a small portion of it with every portion of animal manure made in the stables or yards. There is, in our opinion, no doubt as to the practical advantage of this course.

To the Editor of the American Agriculturist:

SIR: In reply to your inquiry, I would state that I sometime since undertook to settle the conditions of the absorption of ammonia by sulphate of lime, or gypsum, by direct experiment.

Before giving the result, let me premise, for the sake of clearness on what is to follow, that ammonia always escapes in company with carbonic acid, in case of the fermentation of manures, and indeed in all cases of advanced decay or putrefaction. It is also in the form of carbonate of ammonia that it exists in the air. The point then to be decided is, the action of gypsum, or sulphate of lime, on carbonate of ammonia.

As to the retentive power of gypsum to ammonia in the presence of abundant moisture, as for example, when mingled, with putrefying urine, or thrown upon night soil in a vault, there has never been a doubt. It may be remarked here that it is not, strictly speaking, the gypsum that fixes the ammonia, but the sulphuric acid which the gypsum contains. This acid unites with the ammonia, forming sulphate of ammonia, thus fixing and retaining the floating material by destroying its volatility, and giving it the form of a permanent salt. The remaining elements of the sulphate of lime and carbonate of ammonia, unite at the same time and form carbonate of lime. The whole action is simply an "exchange of partners," or what is called in chemical language, a double decomposition.

But it is a singular fact that the partners *change back* again just as soon as they get *dry*. The new alliances do not stand the pressure of hard times. As soon as moisture is gone, the ammonia leaves its new partner, and yoking itself again to the old one goes on its way as it started, in the form of carbonate of ammonia. The production of smelling salts by mixing sulphate (or muriate) of ammonia and chalk, is a consequence of such a *changing back* to carbonate of ammonia (the volatile constituent of the smelling salts) and sulphate (or muriate) of lime, which remains permanently in the phial.

It may also be shown by a very simple experiment that *dry* gypsum will not retain carbonate of ammonia. If the powdered materials are mixed and moistened, and afterwards exposed for a few days to the air, it will be found that the carbonate has left the gypsum entirely, and escaped into the air.

It would seem, then, at first sight, to be established that a covering of gypsum on a dry manure heap will not insure the retention of the ammonia. What *seems* dry, however, may not be, in reality, perfectly dry. It certainly is not, if fermentation is going on beneath it. For, in the first place, somewhat abundant moisture is essential to the process, and this moisture must escape with the products of fermentation. And again, the very process itself which produces ammonia out of the elements of the fermenting substance, produces water also out of the elements of the same material. For these two reasons, therefore, we may always be sure of a certain portion of moisture where fermentation is going on. The *practical* question is, whether the moisture is in sufficient quantity. My experiments seem to answer this question in the affirmative.

EXPERIMENTS.

The experiments were made by covering *fermenting stable manure* with a layer of the same material (stable manure) perfectly dried over a fire, and then upon this a thin coating of ground gypsum or plaster.

The fermentation was carried on in a covered pail, so arranged that all the gases and vapors rising from it could be drawn off and tested. Before covering with the plaster, there was an abundant flow of ammonia through the layer of dry manure, but the layer of plaster being added, *no particle of ammonia escaped*.

The usual condition of a manure heap, even in hot weather, would be much more favorable to the retention of ammonia than in the experiment described. The heap would rarely if ever be dry to the depth of an inch. Even if this were the case it would seem evident from the above experiment that sufficient moisture would escape with the ammonia to insure its fixation by the plaster. But it is to be borne in mind that where the surface is comparatively dry, more plaster must be used. The covering must be quite per-

fect, as in this case the plaster has little opportunity of diffusing itself by solution, as it does, to a considerable extent, in a moist heap.

JOHN A. PORTER.

New Haven, April 29, 1857.

CONCENTRATED FERTILIZERS AND BARN-YARD MANURES.

EXPERIMENTS WITH THEM.

The position taken by this journal in regard to concentrated manures is, that they only hold a secondary place, and that a farmer with good facilities for making manures upon his own premises has little occasion to resort to them. Bone-dust and guano may sometimes be used to good advantage on particular crops, but the main reliance of the cultivator must be upon the muck swamps and the excretia of his own stock. We have come to this conclusion after some years of careful experimenting and close observation of the practice of good cultivators.

A clerical friend, who has a penchant for farming, gives us the following records from his field-book of last year. The experiment was designed to test the comparative value of barn-yard manure with purchased fertilizers. His soil is a sandy loam, and lacks vegetable matter, though it is alluvial in its formation. He planted corn in half acre strips, making six plots for as many kinds of manure or mixed fertilizers. The whole ground was manured with ashes and plaster, at the rate of six bushels of the mixture to the acre. This was put on at the first two hoeings :

No. 1 was manured with 14 one-horse cart loads of stable manure. The result was 54 bushels of ears of good corn, and 16 of soft.

No. 2 had 225 pounds superphosphate of lime (bought in New-York city), with ashes and plaster. The result was only 9 bushels of good corn, and 9 of poor.

No. 3 was manured with 112 pounds of guano, 112 of superphosphate mixed with muck, so as to make the bulk of the whole 134 bushels, besides the ashes and plaster. The crop was 22 bushels of good ears, and 30 of poor.

No. 4 had 112 pounds of guano, and 6 bushels of salt, with the dressing of ashes and plaster. The result was 27 bushels of good corn, and 8 of poor.

No. 5 had guano, salt, superphosphate and plaster mixed in equal proportion, so as to make the cost equal to either of the above. The result was 33 bushels of good ears, and 10 of poor.

No. 6 had 225 pounds of guano, and 1 bushel of plaster. The result was 38 bushels of good ears, and 10 of poor.

He designed to have the manure upon each plot equal the value of the 14 loads of stable manure, which he thinks cost him not over fifty cents a load. It will be seen from these results, that seven dollars worth of stable manure secured much more corn than the same amount of money invested in other fertilizers, and that the guano and plaster were next in their productiveness. The re-

turns from the superphosphate are so meager, that there is good foundation for the opinion of our friend, that "it was not worth a button." The natural yield of the soil with the dressing of ashes and plaster could hardly have been less. There is little doubt that thousands of tons of a bogus article are every year sold for superphosphate.

The returns from the whole three acres are 302 bushels of ears, of which it will be seen 70 grew upon the half acre fertilized from the stable. The average upon the remaining five plots is 46 bushels. Had he spent his seven dollars in muck and labor, making compost from the stable manures, he would have had 24 bushels more of ears upon each of the remaining plots, making 120 bushels, or 60 of shelled corn. As corn is worth about a dollar a bushel, the experiment has cost him about sixty dollars, to say nothing of his own time and trouble in preparing the manures, measuring the plots of ground, and the crops. One can see in these facts, that it costs something to make agricultural experiments, and the need of an experimental farm supported by the State, where such results can be wrought out for the public good, at the public expense.

Owing to early planting, he had all his corn-field to plant over. As the result of his experiments, his conclusions are :

1. To make his own manures and eschew concentrated fertilizers.
2. Not to try to plant too early. The very last week of May is early enough.
3. To cut up corn by the ground, and not top it.
4. To raise less poor corn, if possible. It was mere moonshine in feeding out.
5. To keep account of the expense of raising the various crops upon the farm.

These are sound conclusions, and will commend themselves to the good sense of our readers.

NUMBER OF POUNDS IN A BUSHEL IN THE DIFFERENT STATES.

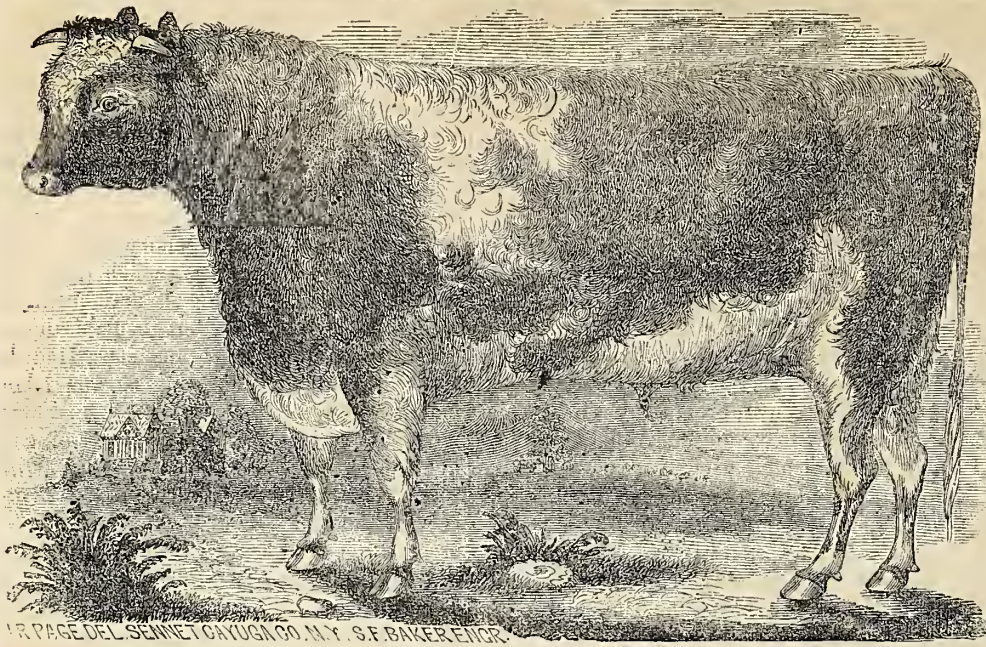
The following is in a more convenient form than the table we have previously published.

ARTICLES.	New-York	Pennsylvania	Ohio	Indiana	Wisconsin	Illinois	Michigan	Connecticut	Massachusetts	Rhode Island	New-Jersey	Vermont	Canada
Wheat, lb.	60	60	60	60	60	60	60	60	60	60	60	60	50
Rye	56	56	56	56	56	56	56	56	56	56	56	56	56
Corn	56	56	56	56	56	56	56	56	56	56	56	56	56
Oats	32	32	32	32	32	32	32	32	30	30	30	30	34
Barley	48	48	48	48	48	48	48	46	46	46	46	46	48
Buckwheat	48	48	48	48	48	48	48	46	46	46	46	46	48
Cloverseed	60	64	60	60	60	60	60	60	60	64	60	60	60
Timothy seed	44	42	45	45	45	45	45	45	45	45	45	45	48
Flaxseed	55	56	56	56	56	56	56	56	56	56	56	56	56
Hempseed	44	44	44	44	44	44	44	44	44	44	44	44	44
Blue grass s'd	14	14	14	14	14	14	14	14	14	14	14	14	14
Apples, dried	22	25	30	28	24	28	28	28	28	28	28	28	22
Peaches, dried	32	33	28	33	28	28	28	28	28	28	28	28	32
Plums, dried	24	24	24	24	24	24	24	24	24	24	24	24	24
Coarse Salt	56	50	85	50	50	50	50	70	50	50	50	50	56
Fine Salt	56	50	82	50	50	50	50	70	50	50	50	50	56
Potatoes	60	60	60	60	60	60	60	60	60	60	60	60	60
Peas	60	60	60	60	60	60	60	60	60	60	60	60	60
Beans	62	56	60	60	60	60	60	60	60	60	60	60	60
C. Beans	46	46	46	46	46	46	46	46	46	46	46	46	46
Onions	57	57	57	57	57	57	57	57	57	57	57	57	57
Corn Meal	50	50	50	50	50	50	50	50	50	50	50	50	50
Mineral Coal	70	70	70	70	70	70	70	70	70	70	70	70	70

We have not in all cases been able to correct these figures by comparing them with authorized copies of the laws, but we believe they are nearly if not quite accurate. Should any error be discovered we will republish the table with corrections. The letter m signifies sold by measure.

"DOUBLE DUKE."

Bred by J. M. Sherwood, Esq., owned by Chas. P. Wood, Auburn, N. Y. Dropped June 6, 1855—color, Roan. Got by 3d Duke of Cambridge, (5941); dam, Red Rose 5th, by 3d Duke of Cambridge, (5,941) 2d dam, Red Rose 2d, by Napier, (6238); 3d dam, Tuber Rose, by South Durham, (5281); 4th dam, Ro-c Ann, by Bellerophon, (3119); 5th dam, Rosette, by Belvidere, (1706); 6th dam, Red Rose, by Waterloo, (2816); 7th dam, Moss Rose, by Baron, (54); 8th dam, Angelina, by Phenomenon, (491); 9th dam, Anne Boleyn, by Favorite, (252); 10th dam, Princess, by Favorite, (252); 11th dam, Bright Eyes, by Favorite, (252); 12th dam, Bright Eyes, (bred by Alex. Hall) by Hubbuck, (319); 13th dam, Bright Eyes, by Snowden Bull, (612); 14th dam, Beauty, (bred by Thos. Hall) by Masterman's Bull, (422); 15th dam, Duchess of Athol, by Harrison's Bull, (292); 16th dam, Tripes, (bred by Mr. Pickering) by Studley Bull, (626); 17th dam, bred by Mr. Stephenson, of Ketton, in the year 1739.



MR. PAGE DEL. SENNETT ENGRAVER. N. Y. ST. BAKER ENGR.

SUMMER FEED FOR CATTLE.

CORN AND SUGAR-CANE FOR SOILING.

For several years we have earnestly recommended our readers to plant or drill in corn or millet for "soiling" cattle; that is, for cutting up and feeding while the crop is green. Every succeeding year has confirmed the profit of this course. During the dry season, and especially in case of a drouth, there will always be a period of short, dry pasture, and then nothing comes in better than a quantity of green succulent food, just such as growing corn cut up and fed two or three times a day, either in the field or stable. Cattle will thrive upon it, cows will continue a full supply of milk, working oxen keep in good heart and be ready for heavy Fall work, and animals to be fattened will continue in good flesh, and instead of losing, they will show the good effects of such food when fat carcasses are desired. All neat stock, thus got well through the worst part of the Summer, will be better prepared for the Winter campaign. We say then, again, drill in a half acre or an acre, or several of them if you have a large stock, and our word for it, you will find it valuable two months hence. It is best to sow, say one-third of the plot very soon, one-third ten days after, and the remaining third, ten days later still, or a small portion may be reserved for sowing about the close of June. This will provide a continuance of green food until a full growth of Fall grass. Sow the corn thickly, in drills wide enough apart to admit the cultivator or plow between them, and keep down the weeds. Any portion not required for green food may be cut while still green, and dried for Winter forage. One who has not tried it can have scarcely an adequate conception of the great bulk of rich cattle food that a single acre of corn will produce. Millet sown broad-cast answers a similar purpose, and is by some preferred. It can be treated, green or dry, similarly to Timothy or clover. Oats, when sown late, and very thickly, make a good material to cut up and feed

green, and especially to gather and dry late in the season. Should they head out, all the better. The great amount of rain we are having this Spring, indicates a dry Summer, and care should be taken to provide for any such emergency.

CHINESE SUGAR-CANE FOR SOILING.

Though holding this new plant somewhat "at arms' length" until more thoroughly tested, we think it well worth while to give it a pretty full trial this season as green and dry food for cattle. We do this the more freely now, as there appears at last to be a pretty good supply of seed offered at a reasonable price. During the winter, we could scarcely get enough at any price, to furnish even a little to each of our subscribers for trial. Large supplies of good seed, not then known to be in existence, have since been obtained from France, and there is enough to meet all present demands, offered at 75 cents per pound.*

The sugar-cane, on account of its large and rapid growth, and its solid, sweet pith, promises to excel corn for cattle food. It may be planted for feeding, almost any time during June—probably the earlier the better. Sow it thickly, in drills, say three feet apart, covering the seed not over half an inch in depth, unless likely to be very dry, in which case it will be best to put it deep enough to prevent parching out when it first sprouts. It will germinate in a very few days. It is said to do well even on poor soil, but we advise giving it as good treatment as Indian corn. We are slow to believe that a plant growing so large and vigorously will not do best on a generous, rich ground. For drilling thickly in rows, not less than three pounds of seed to the acre will be required, and a larger quantity will be still better. In hills three feet apart, with eight seeds to the hill, which would allow of part of the stalks being removed if all the seeds should grow, a pound would plant half an acre; or one

* We shall ourselves have a small surplus which we can part with at less than cost to such subscribers as may desire to experiment with it for feeding purposes. Before closing up this number, we will refer to this matter again, on a subsequent page.

pound would suffice for an acre, if only four be allowed to the hill; but as with corn, it is far better to use an abundance of seed, and cut out superfluous stalks when they are well started. When seed can be procured for 75 cents per pound, it is better in drilling to drop a seed every two or three inches. One seed to three inches, in rows three feet apart, will require about 2½ to 3 pounds of seed to the acre, as there are a trifle over twenty thousand seeds to the pound.

Sugar-cane for Fattening Cattle.—An intelligent and reliable friend, who visited the Kentucky State Exhibition last Autumn, says he was there informed that the animals which took the first premium for "Fat Cattle," had been fattened on the Chinese Sugar-cane. If this be so, it is an important item of information. We were not aware that there was enough raised at any point in Kentucky to be used for this purpose. Can any of our readers in that State inform us as to this matter?

BREAKING COLTS.

L. M. S. sends us the following on this topic:

Is it not much better to break colts to the halter while very young, than to wait, as is usually done, till they are nearly one year old? I think it is, and have my reasons for this opinion. In the first place, like every other creature, they are more plastic, more readily molded by the hand of a master in their infancy than at a later date; and thus a fiery, high-spirited animal, may be made perfectly submissive without a resort to severe measures. The work, when done at this period, is also more perfectly done, and the lessons which they receive are indelibly stamped upon their future character. "As the twig is bent the tree's inclined," says the trite and truthful proverb. But I have a reason still more weighty to our own mind; I have tried it, and am not wholly a theorist. In my experience, I have found that colts at one year old can be broken with very little of the trouble and danger, either to himself or owner, that is usually experienced, and the valuable lessons of submission thus taught, has always shown itself at the more trying time of actual service.

SPAYING HEIFERS AND COWS.

This is a subject we have had in mind for some time past, but have had no opportunity to investigate it properly. There has been an occasional article published, but there seems to be no well-settled opinion, in the country generally, as to its practicability, or advantages and disadvantages. We shall be glad to devote some space to its discussion, and will be thankful for communications from our readers both for and against the practice.

When formerly engaged in raising various kinds of grain at the West, we found it profitable to keep from twenty to fifty hogs, or enough to glean the stubble fields, and our invariable practice was to spay all sow pigs not kept as breeders. Of the feasibility of this practice we have not the slightest doubt, and reasoning from analogy alone, we should say that the same practice would be found profitable if applied to other kinds of stock. In the *Agriculturist* for February, 1856, we published an article from Dr. Heckerman, of Tiffin City, Ohio, setting forth in strong terms the advantages of feeding young children with milk from spayed cows. The reasoning seemed to be conclusive in favor of this course. Since then we have made several inquiries for an operator, but have not succeeded in finding a responsible one in this vicinity who had sufficient faith in the practice, and his *own skill*, to undertake to spay a milch cow eight years old and warrant the animal to live. If there be any such person hereabouts we shall be glad to hear of him, both on our own account, and in behalf of several others who have made inquiries on this point. We think no one but a practised operator should undertake the work—one who has confidence enough in himself to warrant the animal to do well.

We call for information, not only as to the general advantages and disadvantages of this practice for heifer calves, but also for milch cows of different ages. What has been the result of spaying cows from three to eight years old? If a cow, say six years old, be spayed three, six, or more months, after calving, will the operation be perfectly safe, and how long will the animal continue to give her full supply of milk? As this operation counteracts the breeding instincts of the animal, so to speak, will there not be a gradual decline in the propensity to secrete milk? The following communication is to the point. We will find room for any others offered, if from those acquainted with the matter, and not merely expression of opinion:

To the Editor of the American Agriculturist:

Spaying cattle is extensively practiced in South-western Virginia, almost all heifers, except those intended for breeding purposes being spayed. It is done either the Fall after they are calved, or the following Spring; the Fall is the better time, as they are then more easily handled, and seem to do better. The plan generally pursued is this: take a stick about two and a half feet in length, and of sufficient strength to sustain the calf; bind a hind leg to each end of the stick by means of leather straps. Then with a fence as a fulcrum, and a

leg from behind, the other end pressed down, and the calf swung almost off the ground, with its back against the fence—after the manner of a slaughtered hog—all is ready for the operation.

The incision is made just in front of the udder, and of sufficient size to admit two fingers of the operator. Any one who can spay a hog can spay a calf, and a careful hand rarely ever loses one. It is necessary that they should be gaunted, by being kept from food or water for about twelve hours previous to the operation.

It is customary to cut up a small piece of skin on the throat or under jaw, which forms a small teat when it heals, and thus indicates that the animal has been spayed. Spayed heifers fatten very kindly, and other things being equal, I believe they are preferred to any other beef by many. Mount Zephyr, Wythe Co., Va. B. W. S.

PUMPKINS.

"Some pumpkins" has, in certain circles, passed into a proverb, as indicating a person of unusual merit. We accept the motto. It embodies the popular idea of the value of this rustic luxury, whose homely name may grate harshly on "ears polite," but which has still all the merit which the proverb implies. Pumpkins are excellent for pies, as everybody knows. Who could keep a New England Thanksgiving, even on the banks of the Mississippi, without them? When dried properly they may be kept nearly through the year, and they serve instead of succulent food when the latter cannot be had. But the main value of pumpkins to the farmer, is the use he may make of them in the Fall in hastening the fattening of cattle. It is a long-standing opinion of the oldest farmers, that they stimulate growth, and in the early stages of feeding are about the best food that cattle can have. Such experience is a good guide, even if no analysis may be quoted, or scientific experiments tried.

Pumpkins are of easy culture. Plant them with corn or potatoes, or "stick" them in the corn hills a few days afterward. If they die, little labor is lost. If they come forward and do well, you have a great addition to your food for cattle in the Fall, at almost no extra expense. In good seasons, five to ten wagon loads an acre is no uncommon yield.

The conditions favorable to a good crop, are, new land, or turf newly turned over; early planting to escape the bugs; a warm genial soil; a rather damp season, and good culture of course.

Planted with potatoes, or by themselves, they have more sun, and succeed rather better than when planted among corn. But they have been, thus far, so capricious that they are rarely planted alone. If seed is to be saved, pumpkins should never be planted near squashes, melons or cucumbers. They mix so that you cannot predict what the seed will produce the next year. We know of but two varieties,—the common one, found everywhere; and the "mammoth pumpkin," which sometimes weighs over 300 pounds. Get the seed of some experienced farmer, who has a real *taste* for pumpkins, and you will not go far amiss. Plant the seed perseveringly, especially on new land or the sod, along with corn or potatoes,

and you will have a crop, often enough to repay four-fold for your trouble.

In the Fall select the fairest and ripest for drying, and feed the rest to cattle that are being fattened, or to store cattle. Break or chop them into tolerably small pieces. They will thus be eaten easily.

They are not reckoned good for milch cows, being supposed to diminish the quantity of milk. They may be kept in the cellar for Winter use. But they are easily frozen, and it will be the best economy to feed them mostly out before Winter closes in.

When you have a good crop of large fair pumpkins, it is well to dry as many as you can. They will bring a good price at the nearest large town. There are plenty of village and city people who would gladly buy, at almost any price, a supply of nicely peeled, clean, well-dried pumpkins. In but few places has this been offered as a market article. We suggest a trial of this the present year. If you get the villages and city folks to buy and try your dried pumpkins, instead of the little 25 cent. cans, both you and they will afterwards thank us for these suggestions.

ARTIFICIAL SWARMING OF BEES.*

As June is the season for natural swarming, it is also the best time for making artificial colonies, by driving out a portion of the bees from their hive. This plan has many things to recommend it, and the bee-keeper should make up his mind at an early day whether to adopt it or not. The following are some of the advantages:

1. It secures a regular and rapid increase of hives or stocks, while the non-swarming plan does not provide for any increase at all.
2. It saves one the disappointment and loss of time which result occasionally from an unaccountable refusal of the bees to swarm at the proper season.
3. It enables the bee-keeper to choose his own time for swarming, instead of waiting for weeks to accommodate the bees, or losing them when he has gone to market or to church.
4. It obviates the danger that two or more swarms going out the same day, will unite.
5. It enables those who wish to sell the increase of their stocks, to furnish strong swarms at any time which may be agreed on.
6. It is in fine a great saving of time, trouble and vexation.

Precaution.—Never attempt to force a swarm until the drones have made their appearance. Usually it is best to do it only when the bees are collecting honey freely.

How to do it.—We prefer altogether the process detailed by Mr. Langstroth, which is substantially as follows: About the middle of a day when the bees are abroad in great numbers, gently lift the hive to be operated upon, carefully turn it upside down, and put it on the ground several feet from its usual stand. Put over it a box of as nearly the same size as possible, which has slats within for convenience of clustering, and holes covered with wire-cloth for ventilation; taking care to cover all the cracks and entrances with paper or cloth, so that not a bee can escape. Next, place an empty hive on the stand as a decoy to catch the bees returning from the fields.

*See Notes upon Bees, for a notice of Mr. Langstroth's New Work, and for additional information upon the Italian bee we give from a work not referred to by Mr. L.

Then proceed to drive the bees out of the first hive into the upper box, by constant drumming with the hands upon the sides to which the combs are attached. The bees finding escape impossible, proceed at once to fill themselves with honey, and in the course of fifteen or twenty minutes will retreat with the queen to the upper box. When the greater part have gone up, the box is to be quickly lifted and placed upon a bottom board, so as to confine the bees, and yet furnish them with air. If this forced swarm is to be removed to the distance of a mile or more, it should be treated exactly like a natural swarm, while the first hive is set back in its original place instead of the decoy; the bees from the fields will be glad to regain their home; a new queen will speedily be provided, and the maturing brood will make good the place of those expelled.

The plan thus far described, we have pursued with gratifying success. If, however, the bee keeper wishes to retain the forced swarm, and cannot send it away for a time, something more must be done. Mr. Langstroth confidently recommends a process which we have not yet tried. He announces as a new and important discovery, that "nearly all the bees which have entered the decoy hive, if now presented with their own, will adhere to it even when its location is changed."

His advice, then is, *after the foraging bees have returned* to the old hive, now standing in its former station instead of the decoy hive, take up this old hive and put it in a new place, and in the old place put the hive prepared for the forced swarm. Shake out before it, upon a sheet, the bees forced into the box, and they will quickly ascend and make themselves at home in their new quarters; and having a fertile queen will construct worker cells, and do in all respects as well as a natural swarm. If, however, the new swarm should be kept in by a storm, or by a temporary failure of the honey-harvest, it would be prudent to give them a little food.

Where shall the swarm alight?—For those who prefer natural swarming, we have a single hint that may be of great service. An eminent apiarist, last Summer, threw his black hat into a small tree as his bees were swarming, and they at once alighted upon it. It may be that any black object that looks like a cluster of bees, (an old cap, a piece of cloth, or whatever is convenient,) will attract them to a spot where they may be easily reached. Try it.

RAINY DAY RAMBLES—NO. IV.,

AMONG THE MILK FARMERS OF LONG ISLAND.

To the Editor of the American Agriculturist.

I had often noticed a lot of milk cans, glittering in the sun, as I rode by my friend Jackson's, and, knowing by the fine appearance of a herd of thirty cows in a field adjoining, that the pure article must be furnished there, if anywhere, I determined to call, and will proceed to relate how the Queens County farmers manage this branch of business. My friend took me first to his stables, to show me his arrangement for stalling and feeding them. The barn was over 100 feet in length, and a hovel adjoined it at right angles in the form of an L. An alley ran from the barn-floor to the corner where he had a room with a cistern beneath for wetting the feed. Over this was a large bin, holding 1,000 bushels or more. A spout from this leads the bran to the feeding box, placed under the pump spout, so that he could wet his feed with little labor. From this room a similar alley ran along the hovel to the end, which was wide enough to throw down the hay and carry the feed to the cows. He said "there are many

ways of making stalls for cows, but I like best to have them about 4½ feet wide, with a partition 3 feet in length between each two. The cows are fastened by cattle-ties, that play on a post near the stall, and secured by a staple to it, so as to allow it room to play when the cows lie down. He had windows with shutters, so that it could be made dark, to keep the tormenting flies away; for, he said, we have to milk, for six months, in the middle of the day here. Our regular feed for cows is wheat bran and Indian meal, say eight bushels of bran to one of meal, and also all the pumpkins, beets and carrots, that we raise."

I asked about turnips for milch cows, and what effect, if any, it had on the taste of milk. He said, "in small quantities, cut and mixed with feed, they gave no unpleasant taste; but green rye, musty hay and stalks, and sedge hay, often spoiled their milk. As soon as we milk, it is set into tubs of cold water, and stirred until it is cool. This drives away the animal heat and preserves it sweet much longer. In Summer it ought to be cooled as low as 70° before being sent away, but lower is better, if we have time. We generally pay a quarter of a cent per quart for its carriage to the Long Island Railroad, and they charge one-third of a cent to carry it to Brooklyn. Our price this year is to deliver at Brooklyn at three cents a quart for half a year, and four cents the Winter half. So you perceive our pay is small, in comparison to other farm produce; but we feed our grain and much of our hay, and all of the straw, at home. This gives a large supply of excellent manure, which I think is about all the profit. We cannot purchase a middling cow for less than \$45, if she is dry, and they add from \$16 to \$30 if she has a calf, according to the quality." He answered to my inquiry about improved short horned cattle, that he always purchased the best cows he could find; it took no more to keep a good than a poor one. The extra price more than compensated."

He said "the Durham may give richer milk than good natives, but he questioned their averaging more in quantity. We don't look for the richness; the quantity is what we want." Well, I asked, if you had a cow that gave milk of superior richness, why not bring it to a par with the other portion by the addition of a little water? "Well, the fact is, if we did the citizens would find it so much better than swill milk, which they used to have, that they would know it." "Why," he said, "there are several well attested facts of their complaining of the thickness of the milk. They thought the milk-man had thickened it by adding flour." He told many amusing anecdotes of the milk business, one of which was that many upright milk-men have to add water, and reduce the price in the same ratio, or else lose their customers, for citizens will not buy the pure article and water it to suit. *Perhaps, too, they think the milkmen being so long accustomed to it, can do it better.* Cleanliness is very necessary in producing good milk, the cans require thorough washing, and every thing they feed should be sweet and fresh. A large number of farmers purchase brewers' grains in cold weather, to give in equal quantities with bran and meal. It is cheaper feed than grain, yielding more milk from the same cost, but some milk-men say the milk is not so good, and will not keep sweet as long as that made from grain alone.

He said "there was one advantage that every one could observe in those that kept a large number of cows for the sale of milk. Their cows were finer in appearance, and superior in quality, to those that did not, and they continually increased the productiveness of their farms." "And," he continued, "we have mowing and

harvesting machines now to cut our grass and grain, and we can increase our lands in fertility without limit, if we wish." I asked his opinion about the profit of raising carrots and beets for cows. In reply, he stated that "he and several others had made small trials, but nearly all abandoned it now. It takes a large quantity of manure to grow them of good size, and a great amount of labor of the most tedious and unpleasant kind. They needed the greatest attention in the most busy portion of the year, and they are an uncertain crop every way with us. We like beets better, as they come up surer, are easier thinned, sprout in half the time, often starting before the weeds, while carrots are behind them. I think they will yield more loads to the acre, and I do not perceive but they afford us as much milk. It may not be as rich for butter, but that is no object to us. Take the same amount of labor, manure and time, and devote it to the culture of Indian Corn, and I believe it will be more profitable.

"We make great use of corn, planted close, for cattle feed in the latter part of Summer. We could not succeed with so many cows without it, especially in dry Summers. If there is any left, that the cows do not require, I allow it to stand until the stalk is cured, and then cut it up for fodder, and excellent fodder it is too, when properly cared for."

Before taking leave I inquired how much milk he, or milkmen generally, averaged per cow a year. "That depends upon the quality of cows you keep. I think 10 quarts multiplied by the number of cows we milk is a fair average, although many exceed it, and as many fall below it." Having obtained all the information I wished, I took leave of my clever informant, and in the same manner will treat my friend, the professor, and his friends. S.

PROPAGATING THE CRANBERRY.

To the Editor of American Agriculturist.

I have noticed many advertisements of the Cranberry plant, and also different modes of propagation. If one buys the roots, and sets them out in a congenial soil, he will be obliged to wait many years for those roots to cover the whole surface planted, and will be unable to reap a full harvest for a long time. The best method of propagating the Cranberry is this: Prepare the ground by plowing, taking off the turf, or burning. Pulverize the soil as you would to sow a crop of grain. Procure vines from any cranberry meadow by mowing with a scythe. Pass them through a common hay cutter, leaving them in lengths of from two to three inches. After they are thus cut sow them broadcast, and harrow them in well; or if your ground is too soft to use a team upon, cover with a common garden rake. The month of May, or early in June, is the best season to plant. If the soil be of a peat formation, a coating of sand or gravel will be beneficial. The Cranberry vine is very tenacious of life, and will throw out roots from every joint when placed in the soil. There are three distinct varieties, or shaped Cranberries, viz: the oblong, the bell and the round. You will find these three kinds in any natural Cranberry meadow in Massachusetts, one or the other preponderating, according to soil and locality. A. RICHARDSON.

East Medway, Mass.

LICE ON HOGS

Show a careless feeder, and neglect of their comfort. A pig wants regular feeding, thrice daily by the clock. A dry lodging place, with plenty of clean straw, changed once a week. A pig thus treated, never becomes lousy. But when they become lousy by neglect, a dose of sulphur in the feed, and washing with tobacco water about the parts of the body most infested, will effect a cure.

For the American Agriculturist.

LESSONS IN LIFE—NO. 2.

FARM CONVENIENCES.—BY A GLEANER.

"Where did you get your new wheelbarrow Mr. A.?" "Oh, my boys got it up last week, while wife and I were 'snowed in' over to Uncle G's!" "Well done," says the astonished neighbor, "got up by them ar boys, and that cold week tew, why we never thought a doing anything over our way, only to bundle up and see to the critters, and then back into the house; I ollers wished my boys would take some notion to work with tools like, but they don't seem to." Now, candid reader, you have heard these neighbors talk, let me explain a little. "Mr. A." reads the papers, and raises good crops, by the application of that same article which a celebrated painter mixed with his paint, namely: brains. He knows that nature never made a mechanic; do not start! I mean never produced a person whose bump of mechanism was so fully developed, that he could make a substantial wheelbarrow out of four-inch scantling and hemlock fence boards, by the aid of a rusty saw, a one claw hammer, and a two inch chisel, the identical materials and tools to be found in the (not) shop of the first speaker. And knowing this, the latter has profited by the remembrance of his own boyish years, when he would have rejoiced at the sight of an edge tool, (with an edge,) and has portioned off a comfortable space on one side of his carriage-house, placed therein a good supply of the most needful tools, and also a supply of the different kinds of wood, of various sizes and shapes, not bought outright, but sawed to his order from logs of his own raising; and besides this the apartment contains a stove, for, otherwise, many of the days which can now be spent there would be wasted.

Now for the practical part, which our editor always insists on. What does it amount to? I answer, much every way. A farmer's life is made up of littles—his income; his outgoes; and he that has to 'shell out' for every article of farm use, even to buying a wood-box, will find, as I have known, a light purse in his pocket oftentimes, and will, besides, be more likely to become dissatisfied with farming than he who can help himself, to not only grain, meat, fruit, &c., but can employ the many odd hours of a cold winter in making the numerous articles of wooden ware which every farm establishment needs, both in doors and out. I would be glad, very glad, to occupy a whole page of every number of the *Agriculturist* in giving my ideas of what farmers might do to remove the inconveniences found about the establishments of so many of them, and I would endeavor to make every word practical too, but the Editor could not possibly spare me the space. [Yes we can for many such chapters.—ED.] I will, however, beg for a little more room to name some of those things which I call inconveniences.

Let us take the barn for instance; did you ever see a barn with a small, dark granary? I have, and I knew that if there was not room to make it larger, it could easily be made lighter by substituting a four light window for a piece of board. Did you ever see an old man climbing up, in one corner of his barn, on door, and beam, and brace, to get to his hay? I have, and I knew that he had done just so for years for want of a ladder. Are there not very many barns needing that very thing? Does your barn need one? Then pluck up the energy and have the ladder put up, nay, put it up yourself, then climb up it, and stand on the big beam and crow. Once more, did you ever see a barn door with a stick set

against it to answer the purpose of a latch? I have, and admire the plan, for then, if one is detained away from home, the cattle can knock down the stick and help themselves to food they often ought to have.

THE WASTE PLACES AROUND VILLAGES, FARMS, &c.

To the Editor of the American Agriculturist:

It has ever been a matter of surprise to me, that intelligent citizens should allow the great waste of lands which they do. A parcel of ground is stony and it is in consequence half tilled, if tilled at all. It is run over, leaving here a "balk," and there a "cut and covered." The plow, the harness and the hoe, show the effect of too great contact with stones, to say nothing of the great waste of strength of man and beast in working among them, while fences and drains are wanted near by. Brush is suffered to grow along the fences and around *stumps* monopolizing too great a share of the field. A little spring of water is suffered to saturate and spoil the land for valuable culture for rods around it, when a little draining would make it the most productive parcel upon the farm. Nooks and corners made by buildings and fences are left uncultivated because so small—overlooked as not worthy of attention.

How many of our *villagers* neglect the little plots where a bed of salad or radishes might be cultivated, while they eat stale or wilted garden sauce from the markets, and lose the double luxury of eating fresh food, and the satisfaction of having raised it, joined with the healthy appetite derived from pure air and gentle exercise. Not long since your correspondent occupied a village "tenement" in a block of buildings that had attached a back yard descending from the house to the north—a very shady unpropitious spot filled with refuse from a shoe-maker's shop, a meat-market and a tailor's shop, with old shoes, stove-pipes, etc., until it was not far removed from a nuisance. It became necessary for health and comfort on taking the premises to abate the nuisance. The rubbish was buried in large pits dug for that purpose. The ground was then thoroughly spaded, and amid the jeers of neighbors, it was planted with cabbage from a neighboring hot-bed, and a bordering of beans and a plot of cucumbers added. The ground was cultivated each morning at sunrise, and at the proper time a more noble growth of cabbages I never saw. Two would have been a pretty good load for a man. The table was supplied with delicious vegetables while our good neighbors came in for a share. Need I say that I was abundantly repaid by the health and comfort of the exercise, by the pleasure I took in seeing them prosper, and the convenience of having them?

Again, fruit-trees could, and ought to be introduced among the shade trees upon vacant places. We have heard much commendation bestowed upon those who plant shade trees, and they do a benevolent act. But would it not be noble to set fruit trees on our village "greens?" The pear, the chestnut, the cherry, the plum and even the apple-tree, might be trained to grow tall, and would be an ornament, and with proper regulation might be a benefaction.

Again, our public streets should be bordered with trees. In some European Countries, we learn they do so, and the fruit in the Fall is sold to the highest bidder, and the proceeds appropriated to promote further culture, and to keep the streets in repair. Our public school grounds ought to be thoroughly furnished with fruit-trees, and a parcel of ground devoted to floral culture

and vegetables; a bed of radishes and salad would give a relish to the "bread and butter" of the scholars' dinner. A good harvest apple, a choice plum, a ripe cherry, would not come amiss on the occasion.

But I would not recommend it for the pleasures of the palate alone. I would make the school-yard and the school-room inviting by strewing the path of science with flowers and golden inducements. Let the school aspect be the farthest possible removed from that of a prison. Let good taste be cultivated, practical science taught, and the mind made practical by the strongest incentives. Let none say that children would destroy such things, or that such embellishment is impracticable. It has been done and can be again, without difficulty in most of our country schools. "Where there is a will, there is a way." BALLSTON SPA, N. Y. C. T. H.

SYRUP FROM THE NEW SUGAR-CANE.

An Estimate of the Cost of Cultivating ten acres, making the Syrup, Profit, &c.

We are not yet prepared to advise fully in regard to the particulars of trying the new Sugar-cane for syrup this season. We have planted an acre solely to experiment on this point, but have not yet decided what kind of mill we shall procure, nor what boiling apparatus will be best adapted to our own circumstances. The common two and three cylinder roller presses, in general use at the South, will do the business, but we are in hopes to find one better and cheaper, perhaps in that prepared by Messrs. Hedges & Free of Cincinnati. With respect to the cost of manufacture, in a recent conversation with Mr. Samuel Clapham, of Cold Spring Harbor, N. Y., we requested him to furnish an estimate of the cost of culture. Messrs. Clapham & Hewlett are putting in a large surface solely for making syrup, or sugar if found practicable. We give his reply, but with the present limited experience we are not prepared to say that 500 gallons of syrup per acre will be an average yield here, though last year Mr. Hewlett obtained 70 gallons from one-fourth of an acre, with but a rude pressing apparatus of his own construction. Nor are we certain that it will be best to undertake to save seed from the canes used in making syrup or sugar. The figuring is evidently too high:

COLD SPRING HARBOR, L. I., May 4, 1857.

To the Editor of the American Agriculturist:

According to promise I send you an estimate of the cost of raising and producing syrup from 10 acres of Sorghum. In making my calculations of the cost, I have reckoned everything at the full prices, and I am sure that I have not over-estimated either the quantity or the price of the syrup:

Ten quarts of seed (present price \$1 per quart).....	\$10 00
Planting and cultivating 10 acres, at \$15 per acre.....	150 00
Two men 30 days pressing, at \$1 each.....	60 00
Two horses 30 days pressing, at \$1 each.....	60 00
One man and one boy boiling 30 days, at \$1 50.....	45 00
Ten cords of wood, at \$4.....	40 00
Use of pressing machine and boilers, 33 1/2 per cent. on cost \$250.....	85 00
Sundries.....	50 00
Total.....	\$500 00
165 barrels for syrup, at \$1 25.....	206 25
Total cost of 5,000 gallons (14 cents per gallon).....	\$706 25
The leaves or dry fodder, I consider, pays for cutting and carting.	
PRODUCE OF TEN ACRES.	
5,000 gallons of syrup, at 50 cents per gallon.....	\$2,500 00
250 bushels of seed, at 50 cents per bushel.....	125 00
	\$2 625 00
Cost of producing as above.....	706 25
Net profit.....	\$1,919 75

Yours, &c., S. C.

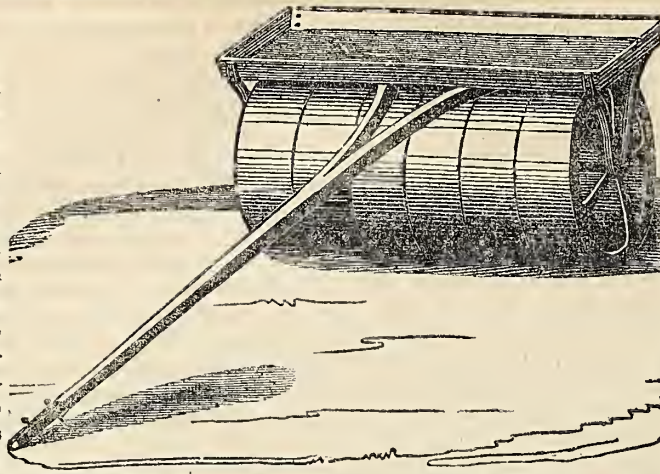
THE ROLLER.

Though, as a general thing, we recommend keeping land as loose and permeable to air as may be, yet there are many cases in which the use of a roller is highly advantageous, if not absolutely necessary. Light sandy soils are improved by compacting the surface with a heavy roller. All lumps on clay or heavy loam lands, should be crushed with a roller. Where there is not danger of packing the ground too much, wheat and clover fields should be rolled in the Spring, as soon as the team can walk over them without sinking in. This will press in the roots heaved up by frost. All surfaces are improved by smoothing them with a roller after sowing grain.

But the most important use of this implement is upon land being prepared for mowing. There is a double advantage here. Grass seeds require but a very light covering of soil. If the surface be at all lumpy, the seed sown will drop between these, and the roller passing over will crush them down and cover the seed sufficiently without any harrowing or bushing. Then, again, a heavy roller will level and smooth the surface, flattening the miniature hillocks, and burying all small stones out of the reach of the scythe or mowing machine, and leaving the field like a floor. Any loose stones not leveled down by this implement should be picked up and thrown upon the box, to be carried off to the fence, for the time being.

There are several modes of constructing rollers. The most primitive is to saw off a smooth log, six to eight feet in length, and put an iron pin into each end, to which a frame is attached. An improvement upon this is, to cut out discs and nail strips of narrow plank around them to form a drum. This gives a larger diameter for a given weight, and by attaching a box to the frame, stones can be thrown in to increase the weight whenever desired. The larger the diameter of the roller the easier will be the draught, and the ground will be left smoother.

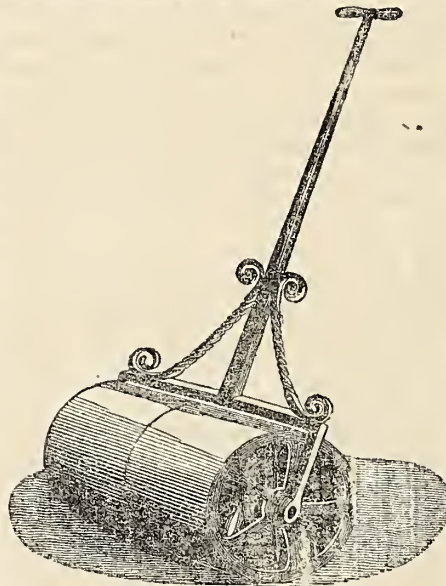
One great objection to the old-fashioned rollers is the difficulty of turning them round. This is in part obviated by dividing them in the middle, making two rollers instead of one, so that the two may revolve in opposite directions in turning; but even then there will be more or less dragging. The better plan, by far, is to make half a dozen or more short sections, as shown in the cut, each piece turning independently of the others. A log might be sawn into short pieces, and all put upon a single iron shaft. But with these the diameter is too small for the weight; and unless metal boxes are inserted in each piece, the wood will soon wear away. The cheapest roller, in the long run, is one made of hollow cast-iron cylinders, as above represented. These are 20 to 30 inches in diameter, the larger the better, and 12 inches in length. The usual size for field rollers is six of these sections, each 28 inches in diameter, and weighing 160 pounds. A larger diameter would, we think, be still better. A box for holding stones, weeds, &c., and for adding weights, is very desirable. One of this description costs, all complete, about \$75. Where a farm is not so large as to require the exclusive use of one, two or three or more persons could unite in purchasing. They are sometimes made of a lighter weight and sold a trifle less. Seven or



eight dollars is also deducted for each roller less than six.

It will be observed that in a roller of this construction, should a section chance to be broken, the others can be moved together without delaying the work, and the broken parts can be sold for old iron, or be exchanged in part for new. There is no "patent" for this mode of construction. It is generally cheaper to buy such implements of those who make a business of manufacturing them, but in this case those living at a distance from any factory, will perhaps find it better to buy the sections, and get the frame constructed at home, as the latter would be unwieldy to transport. The rollers will go at the lowest price of freight, and can be bought ready-made for six to eight dollars each, according to size and weight. Any blacksmith can cut and fit a round iron rod for the shaft or axle.

A hand-roller of two sections, like the one here shown, can be bought for \$12 to \$18.



HOUSING TOOLS AND CARTS.

There is great temptation, at this busy season of the year, to leave plows, harrows, carts, &c., in the field where they are likely to be wanted to-morrow. But to-morrow, when it comes, is perhaps a rainy day, and the result is, that a good tool stands out in the weather for a week. The injury done to tools by this exposure is much greater than is generally supposed. It is slight, at first, and perhaps imperceptible, and that is one reason why so many farmers are careless of their tools. The rain will find its way into the joints, and then decay will com-

mence, and in some time of need, when the strength of the tool is tested, it will give out.

Every farmer should have sheds for all his vehicles, and a house where every tool is stored, when not in use. They are not only kept dry in such a place, but they are always on hand when wanted, or if not, they can be more easily traced to the delinquent who left them out of place.

This is quite as important for iron and steel implements as for those of wood. They are immediately covered with a coating of rust when exposed to the wet, and this is a serious hindrance to their comfortable use. Plows, hoes, spades and shovels should be cleaned as often as used, and put up in a dry tool-house.

"THE WEATHER! THE WEATHER!!"

These words are in everybody's mouth, hereabouts. The rain is now (May 20, 3 o'clock P. M.) pouring down and drizzling, by turns, and so it has been doing for three days, and for two months past, with occasional intervals. Some time since, we predicted a "dry time," because all the rain in the store-house of the clouds must have "come down," but here it comes again. We have nearly a hundred kinds of seed in the ground, where we begin to fear many of them will *stay*. Our neighbors say their potatoes, corn, &c., will surely rot, if they were not frozen by the snow that fell last night, and the cold of the last few days. A friend just in from Western New-York says, the farmers there having failed so often of late years in attempting to get a wheat crop, have nearly all determined to try barley this Spring; but part of them cannot get a chance to sow, and what has been sown is rotting. Nearly a hundred letters received from the West, South-west, and from Canada, this week, bring bad reports of the wheat prospects, and speak of cold weather, and a wet, late Spring. The prospect for Spring crops is worse, even, than in 1854. But still we hope for the best. The "Bow of Promise" is still in the clouds, and we are sure seed-time and harvest will not fail. Let us, however, make the most of the season that yet remains. There will be plenty of time to plant corn: and with a good crop of this, famine need not be feared. (See remarks on this topic, at pages 105 and 140.) A good supply of manure will hasten forward the crop. Those who can get it readily, will find good Peruvian guano a stimulant to rapid growth. If used, mix it *thoroughly* with the soil around, but not in contact with the roots. Put in a quantity of corn, or millet, or oats, or sugar-cane, to be cut as green food for the cattle, since one extreme usually follows another, and a dry Summer may be looked for after this wet Spring. Those who have our numbers for May, 1854, will do well to refer to page 145, and read the advice we then gave under circumstances like the present, in an article headed, "Will there be a Great Drouth the Coming Summer?" We then predicted a dry season, and urged putting in plenty of corn for soiling, against July and August drouths. Hundreds afterwards wrote to

thank us for the advice, which they had followed, and others will do so this Summer, if the drouth does come, and if it does not, they will not find the crop to come amiss under any circumstances.

Those who fail to get in their usual Spring crops, will remember that turnips can be sown for six weeks yet, and this is a crop not to be despised or forgotten. We shall have more to say of it in our next number.

SPARE THE CALVES.

To-day, May 20, beef cattle are selling in this city at higher prices per head than horses; at least, poor cattle are going for a hundred dollars per head and more, and poor horses will not bring that. We have seen sales to-day of plenty of good cattle at \$120 to \$130, and from that to \$150 each, and other sales have been made at higher rates still. Now these prices are not the effort of combination or speculation. *There are not cattle enough in the country*, young or old, to meet the demand. Pray don't sell any more calves for veal, at \$2 50 a head, nor double that price. Calculate the comparative cost of raising a calf and a colt, and act accordingly.

MANAGEMENT OF HEDGES.

In a recent number we gave some account of the best plants used for hedges. We now add a few remarks on growing and managing them.

The line of the fence having been determined on, mark off a space four feet wide, and if on a field give it a thorough plowing, if in smaller grounds trench it. Most plants will *live* in any ordinary soil, but if one wishes to form a rapid-growing and vigorous hedge, the ground should be manured. And in doing this care should be taken to make it of uniform richness throughout its whole extent, otherwise the hedge will not grow up in uniform height and vigor. Let the soil be carefully examined all along the line, and the cold and wet, or dry and barren spots, be brought into a good condition.

Most of the plants of which we have spoken, can be grown from the seed, either on the spot they are to occupy, or in the garden or nursery, and then transplanted when one year old. They should be sown like peas, in drills two inches deep. But where time is of any account, it is better to buy yearling plants from the nurserymen; they can be purchased at about \$5 or \$6 a thousand plants. Before setting them they should be assorted, planting on any particular line those only of uniform size and health. The tops, also, should be shortened, so that when planted they will rise only two or three inches above ground. Double rows are often planted in alternate lines; this makes certain of a strong barrier; but it is thought by many that a single row, well cared for, answers every purpose. Set out the plants by a line, six inches apart in the row. Keep the ground well hoed for the first two or three years, and if a little manure is worked in every year it will not be labor or manure thrown away.

The most important thing in the management of a hedge is its pruning. Most men are impatient to see their hedges get up to the required height. During the first two years, especially, the plants look small, and when the time of pruning comes, most persons can't bear to cut them down, as hedge law requires. The consequence is, that the plants shoot up tall and thin, and so far as making a hedge is concerned, they are almost worthless. A writer in one of our Western agricultural papers, recently stated, as the result of his extensive observation, that full one half of the numerous hedges throughout the West are nearly useless as hedges, and that from the very cause of which we have just spoken. *A hedge is comparatively worthless if it does not have a good bottom, and that is obtained, if ever, during the first two years of its growth.* We therefore call especial attention to this. The treatment should be as follows: The first year after planting, head it back to within one foot of the ground; the next year to eighteen inches, and the next to two feet and a half, adding only one foot's growth each year, until the desired height is reached. The sides should also be sheared six or eight inches annually, and the whole hedge kept in a conical shape. When fully grown, it should be trimmed twice a year, say in June and October. A hedge so grown, will be well grown, and will afford much satisfaction.

DESIRABLE HARDY SHRUBS.

Having lately given some directions for the planting of shrubbery, we now add a list of some of the best sorts of deciduous (leaf-shedding), which will grow with ordinary care in any common garden soil. It should be premised, however, that all shrubs, to succeed well, must be set in good earth, and occasionally manured and dug about afterwards, to keep down weeds. If planted in exposed situations, they need tying to a stake the first year, to keep them erect: they should also be pruned a little, from year to year, to remove dead branches and those of awkward growth.

In making a collection of shrubs, it is not advisable to search for novelties, to the neglect of old sorts. As a general rule, the old are better than the new. They have held their place in gardens from one generation of men to another, because of their intrinsic excellence. And then, the wealth of charming associations which they possess is enough to endure them to every heart. Hold on, then, to the old: make them the staple of your collection, adding the new only after they have been well tried and approved.

SHRUBS FROM TWO TO FOUR FEET HIGH.

Mezereon (Flowers in April).—This little bush sends out its bright pink flowers almost as early as the Snowdrop and Crocus. Indeed, as we now write (near Utica, N. Y., April 10th), we look out upon a bed of blooming Crocuses, and near by is a bush of the *Mezereon*, whose swelling pink flower-buds are plainly discernible. And, to com-

plete our picture, within a few rods are huge snow-banks! The flowers of the *Mezereon* are fragrant, and appear scattered along the branches before the leaves unfold. They are succeeded by berries which are said to be poisonous. There is a variety with white flowers, and another which blooms in Autumn. This plant thrives best in a moderately dry soil, and should be transplanted in the Fall. For northern latitudes especially, where the season of flowers is so short, it is a very desirable shrub.

Prune-leaved Spiræa (May).—While the *Mezereon* is an old-fashioned plant, this is, comparatively, a new comer. Yet we have known it long enough to like it well. It is a China-man. Its leaves are small, branches slender, flowers small but pure white and double, resembling miniature roses. It should have a place in the smallest collection.

Reeve's Spiræa (June).—With some, this is no less desirable than the last mentioned. Its flowers are not double, and here it requires a little protection in Winter. Bending the tops to the ground, and throwing over them a few shovelful of earth, is all the care it requires. Its leaves are dark green, flowers of sunny whiteness, formed in clusters. Its branches have a very graceful, drooping habit, which will attract the eye of every amateur. Propagated by layers and cuttings.

Douglass' Spiræa (June to September).—This is a recent addition to the large family of *Spiræas*, and it is welcome, deserving an honorable place. Its flowers are plum-shaped, about the size of a lady's finger, rose-colored, fragrant, and are produced in succession nearly all Summer—a valuable and uncommon trait in a shrub.

Graceful Deutzia.—A charming little shrub, with modest white flowers scattered profusely along the branches. Perfectly hardy. The smallest garden should have it.

Weigelia (May).—There are two varieties of this plant (*Rosea* and *Amabilis*), the one having pink blossoms, the other white. Both are desirable acquisitions. Leaves broad like the syringa, flowers funnel-shaped, two inches long. *Amabilis* often blooms twice in a season. Both propagated by layers or cuttings.

Peter's Wreath (May).—Here is hardiness enough for anybody, and beauty thrown in. Foliage delicate, flowers ditto, white as snow, and formed in wreaths along the branches. As it blossoms early, before all remembrance of Winter has passed away, it often appears when in flower as if a light fall of snow had just been deposited upon it.

Japan Quince (April).—A first-rate, early flowering shrub. One variety has fiery red blossoms, often called in England, "Fairies' Fire," and another has blush-colored flowers like those of the apple tree. The first-named is the most striking, foliage dark green, always glossy and fresh, and its blossoms, when the sun shines upon them, resemble coils of fire.

Persian Lilacs (May and June).—These are the city cousins of the old-fashioned white and purple Lilacs. The last-named

are among the best of our large shrubs; the Persians are smaller, with more delicate foliage and blossoms. Their fragrance, also, is less strong. Josikea and Charles X. are excellent varieties.

Flowering Almond (May).—Sometimes called Double Dwarf Almond; a very fine, early flowering shrub, so well known and so much admired as to need no description or recommendation.

To these we might add the Garland Deutzia, Calycanthus, Deep-green Forsythia, Corchorus and many others, but the above are sufficient for an ordinary collection of small shrubs.

SHRUBS FROM FOUR TO TEN FEET HIGH.

Upright Honeysuckles (May).—It will be hard to find more desirable shrubs than these. There are two varieties, one with white, the other with pink blossoms. They both form neat, compact bushes, with globular heads. The foliage appears quite early in Spring, and remains fresh throughout the season. The blossoms cover the bush in every part, and are quite fragrant. These are succeeded by crimson berries in the Fall, of which the robins are exceedingly fond.

Fragrant Clethra (August).—Not so fine in its habit and foliage as the last-named, but its spicy, rich-scented plumes of flowers make it worthy of cultivation. It is a great favorite with those who happen to possess it.

Flowering Currants (May).—Here is a family whose acquaintance is worth making. The common Missouri Currant, with its yellow and sweet-scented flowers appearing in May, should form part of every collection. The crimson-flowered, double and single, are very desirable, but in some situations the double variety is a little tender. Gordon's Currant, said to be a cross between crimson and yellow, is hardy and excellent.

Fringe Trees.—Of these, there are at least two sorts, the Virginian with white flowers, and the Venetian with red flowers. Of the first, it has been well said that "the flowers which appear early in June in great profusion over all the branches, look like tissue-paper fringe most exquisitely cut, and contrast, in their snowy whiteness, admirably with the dark green foliage."

Altheas (August and September).—With those who have seen this class of shrubs, we need not spend words in their praise. To us, their great attraction lies in their late flowering, making the garden gay after nearly all other shrubs have done blooming. The single varieties are the hardest: the double often have abortive flowers.

Burning Bush.—Often called Strawberry tree, and Spindle tree. These are excellent shrubs for massing. The foliage of the European is darker than the American, and hangs on very late in Autumn. The American fades off in September into a rich, purplish crimson. The broad-leaved European is, however, the flower of the family. All of them have bright scarlet seed-vessels in Autumn, which hang on in Winter, and produce a striking scene.

But we have exhausted our space without exhausting the subject. We might speak of the Berberry, the purple-leaved variety of

which produces a fine effect against a background of evergreens; of the Silver Bell tree, with its pendant, bell-shaped flowers; of the red-twigged Dog-wood; the Missouri Silver tree, with its grey branches and leaves; of the Syringas, the flowering Hawthorns, scarlet and white; the Indigo shrub; the early white Viburnum, and many others too numerous to mention. The above-named are the cream of the catalogues.

THE PEAR AND CHERRY SLUG.

The *Selandria Cerasi* is one of the worst enemies of the fruit-yard, and this is the best month for making war upon him. Though this slug attacks the cherry tree so much that the tree has given it a name, it is found upon the pear quite as often as upon the cherry. The fly which lays the egg is of a glossy black color, except the first two pairs of legs, which are a dirty yellow, with blackish thighs, and the hind legs, which are a dull black, with yellowish knees. The wings are transparent, with iridescent hues. The body of the female measures rather more than one-fifth of an inch in length; that of the male is smaller. They usually make their appearance upon cherry, pear and plum trees, from the last of May to the middle of June. They begin to lay their eggs very soon, just within the skin of the leaf, on the under side, and in about three weeks disappear. In two weeks from the laying of the eggs, the young slugs begin to make their appearance, and are found upon the trees from the first of June to the middle of July, according as the eggs have been deposited, early or late. The slugs are at first whitish, and then of an olive color, and covered with a slimy, adhesive coat. They grow to nearly a half inch in length. Their shape is something like small tadpoles. They live mostly upon the upper side of the leaves, completely sucking out all their juices, and leaving them a mere mass of fibres. They have a disgusting odor emitted from them. Where they are sufficiently numerous—and they soon will be in any place, if neglected—they completely destroy the foliage in mid-Summer. The tree, of course, attempts to repair the injury it has sustained, and immediately develops the buds it had formed for another year. This prevents all fruit bearing, and if the process is often repeated, the tree becomes exhausted, and dies.

The slugs remain twenty-six days upon the tree, during which time they cast their coat five times. They then burrow in the earth a few inches deep, in little cells which they form for themselves, and at the end of sixteen days re-appear in the fly form, again to lay a second brood. The leaves of the fruit trees are again covered in September and October, and the slugs descend again to the soil, to remain during Winter.

Both insects and birds prey upon these slugs, but they multiply, notwithstanding their natural enemies, and the mutilated trees invoke human aid to rid them of these pests. Fortunately the task is not a difficult one. As the slugs appear upon the upper

side of the leaves, they may be easily covered with powdered lime, or with ashes which adheres to their slimy bodies until they die. A small sieve fastened to the end of a pole is a convenient article to put on the lime with. But most of them may be killed by simply throwing on the lime or ashes with the hand. This treatment should be followed up once a week, as long as any slugs are to be found upon the trees. Whale oil soap dissolved in water, in the proportion of two pounds of the soap to fifteen gallons of the water, and sprinkled over the trees by means of a garden syringe, will effectually destroy them.

If the fruit-grower will follow up these applications, he will rid himself of the pests, and raise fine cherries, pears and plums. The trouble with most fruit growers is, that they neglect remedies until their grounds are completely stocked with insects. Good fruit will not grow in the ground of the slothful.

INSECTS INJURIOUS TO FRUIT.

These are busy during the present month, depositing their eggs for new broods. Young and tender fruits afford favorable situations in which to propagate their species, the pulp of the fruit or berry affording both protection and food for the newly-hatched insect. To successfully combat the various tribes which prey upon the products of the farmer, gardener, and fruit-grower, requires a careful study of the character, habits and transformations of the insect world, much of which is very imperfectly understood by cultivators generally. We can only give a brief description of a few in the present number, confining our remarks chiefly to the means of destroying those injurious to fruit, and particularly which require looking after this month.

Curculio, or Plum Weevil. (*Rhynchænus Nenuphar*.) This insect has of late years been so destructive to plums, nectarines and apricots, that fruit-growers, in many localities, have abandoned their culture. The beetle, in its depredating state, is of a brownish color, about one-fifth of an inch long, and has much the appearance of a dried bug. It commences stinging the young fruit as soon as it is formed, and continues till about the middle of July. A puncture, of a crescent form, is first made with its proboscis, or snout, into which it deposits a single egg, and so continues until the supply is exhausted, as it usually selects a new plum each time. The egg soon hatches into a minute whitish grub, of a maggot appearance, which commences burrowing slowly towards the centre of the fruit, and enters the stone in its soft state. During the latter part of this month and early in July, the plums commence falling, as the insect reaches its heart, and having attained its full size leaves the fruit for the ground, where it generally remains till the following Spring.

Preventions.—Commence as soon as the blossoms are off, going over the trees each morning, and with a mallet strike the tree two or three smart blows, having previously spread sheets underneath. The beetles, instead of flying away, roll themselves up if as dead, and drop upon the cloth, whence they are to be collected and burned. The insects are numerous, repeat this practice twice a day, following it up as long as they are found, which sometimes continues for several weeks. Care should be used not to start the bark of the trees in striking them. A woolen pad

fastened over one end of the mallet will prevent injury from this cause. With small trees a simple jar with the hand will often be sufficient. We have known crops saved upon trees planted near the dwelling by simply jarring them with the hand while passing to and from the house, without attempting to collect the insects. They are sluggish in their natures, and if disturbed two or three times a day will seldom do much mischief. Chicken yards are sometimes made of plum orchards, and fowls have been so trained as to follow one while shaking the trees, picking up the insects as they fall. All the fruit should be cooked or burned, as soon as it falls, to destroy the worms before they leave the plum. They are much more troublesome on light than on heavy soil, and on this account some have paved around their trees, and others spread a coating of mortar under the branches, to prevent the curculio from entering the ground. Dr. Underhill, of Croton Point, plants his plum trees leaning over water, and succeeds admirably. The natural instinct of the parent seems to prevent her from depositing her offspring where they are sure to meet destruction when falling from the tree.

Apple Worm, or Codling Moth, (*Carpocapsa pomonella*.) The Codling Moth is busy during this and the following month, flitting among apple and pear trees, and laying its eggs upon the skin, in the eye, or blossom end of the fruit. This moth is very common at night, often entering the open window and fluttering around the lamp or candle. Having described them somewhat minutely on page 254 of last volume, we will now briefly refer to the means employed for their present destruction. They, in common with most of the miller tribe, are nearly quiet by day, but active at night. As soon as apples and pears begin to set, kindle small bonfires in various parts of the orchard or fruit-yard, which will attract large numbers of these and other insects, and consume them in the blaze. Wide-mouthed bottles, filled with various mixtures, such as molasses, or honey and water, vinegar, water and molasses, honey and alcohol, &c., and hung in the branches of trees, will attract and destroy thousands of insects by stupefying and drowning them. The contents will need emptying and replenishing, as the bottles soon become filled. A mixture of two parts water, and one part vinegar, and one part molasses, is very good for this purpose. Fruit penetrated by this worm drops prematurely, and should be gathered and cooked before the insect has time to leave it. See what is said below respecting flambeaux for destroying the caterpillar.

The Caterpillar, (*Clisiocampa Americana*), is very destructive at this season upon the apple, pear, and cherry tree. The eggs have already hatched, and large nests of fine spun, silky threads woven together, contain broods of ravenous worms, which sally out in clear weather, and, if unmolested, often nearly strip the tree of its foliage, lessening or destroying the crop, and weakening the vigor of the tree itself. Thrifty and prudent cultivators have already rid their orchards of these pests by pulling or cutting off the nests as soon as discovered. To exterminate those remaining, tie a sponge to a pole, and dip it in a strong solution of whale oil soap, or spirits of ammonia, and slowly twist it into the nest, which will instantly kill all the caterpillars coming in contact with it. A round brush, made for the purpose, and fastened to a pole, may be used to entwine and bring down their nests. The above should be used early in the morning, before the worms have left their nests. Bonfires, as directed for the Codling Moth, should be built at night under the trees, the latter part of this month

and the first of July, to destroy the millers of the first brood before they deposit their eggs for a second crop. Flambeaux or torches, made by winding tow saturated with tar, upon a stake stuck in the ground, are the most effectual, as these burn for a long time. Thousands of millers will be destroyed by them during a single night.

Cherry Slug, (*Selandria Cerasi*.) This worm, found in large numbers during the latter part of June, both upon the cherry and pear tree, is described at length in another article, and the remedies given. An insect nearly allied to it, is found upon rose bushes, and the treatment of them should be similar to those upon the cherry. We recommend the mixture, for the discovery of which D. Haggerston, of Boston, received the premium of the Massachusetts Horticultural Society. This is whale oil soap mixed with water, in proportion of one pound of the former to two of the latter. Having thoroughly tested its application on our own grounds, we pronounce it a sure remedy. Where whale oil soap cannot be obtained, pour the dregs of oil casks upon common soft soap, and use in the same manner.

Bark Lice, (*Coccilæ*.) These cover the trunks and limbs of young apple and pear trees, and are frequently found upon currant bushes. They usually seize upon an unhealthy or weak growth, and, if not destroyed, often kill the tree or bush. They are readily recognized by their scaly appearance, often entirely covering the wood, and should be attended to by the middle of this month, at which time the young are in a tender state. The whale oil soap is a good mixture to destroy them, using a scrubbing brush or woolen rag to apply it. A wash of one part hard soap, and four parts water, adding lime enough to make a white-wash, forms a very good coating, applied with a brush till all the crevices are filled. As two crops of insects are hatched each season, the infested trees should be looked over again in the Fall, and the application repeated if necessary.

GRAPE CULTURE—NO. VI.

BY WILLIAM CHORLTON

OUT-DOOR CULTURE.

The vines in this department will now be in active progress, notwithstanding the very late Spring, and adverse weather. As the shoots elongate, nip out the tops to three or four leaves above the fruit-bunches, but allow those intended for next year's wood to extend themselves for the present, rubbing off all that are superfluous. Now is the time to save much after labor in Summer-pruning, and prevent injury to the fruit; therefore, do not leave more branches than are necessary to lay in, eighteen inches apart on the trellis, or furnish two or three for the stakes, according to the mode of training. A reference to former chapters and cuts will show what is here meant. Let these young shoots acquire some woody fibre at the base before tying-in, else they will be liable to break off; but do not delay the operation longer than necessary. Some persons use willow twigs and rye straw for this purpose; the former, however, is troublesome, and the latter very unsightly. Good Russian bass will always be found more convenient, much neater, and quite as economical. As soon as blossoming is past, and the best bunches can be selected, cut off all the superfluous and inferior ones. A healthy and vigorous cane may be allowed to bear one pound of grapes to each foot in length; but on those of weaker growth, the weight should be correspondingly less, if good quality is the object. Keep a sharp look-out for insects, as they sometimes do much mischief at this time. There are several kinds of beetles and caterpillars which eat the young

shoots, and likewise the stalks of the bunches. These should be destroyed by hand-picking early in the morning, when they are sluggish, and easily caught. There is also a species of *Aphis*, or small black fly, which congregates in great numbers on the young growth, and by sucking the juices, kill the tops of the shoots if they are not destroyed. Syringing with whale-oil soap dissolved in hot water, and afterwards diluted to the proportions of one pound of the former to thirty gallons of the latter, will be effectual; or, the next best substitute is common soap-suds, used in the same way. It is not best to apply these materials while the blossoms are expanding, but attack the insects by hand, before they become numerous. Loosen the soil with the hoe or plow, to destroy weeds, and allow the rains to penetrate. The cuttings which were put down in March will also be benefited by the same process, and if drouth should occur, a good soaking of water will make their success more certain, and prevent many from dying out. Now is a good time to propagate by layers. For this purpose, bury a branch of last year's growth, some four inches deep, leaving the young lateral shoots of the present season in a perpendicular position, having the tops above ground. Press down some hooked pegs to keep the branch in its place, and cover with earth. At the end of Summer, these upright branches will have an abundance of roots, and may be divided into as many individual plants.

COLD GRAPERY.

The vines in this house will, like those in the open air, be in active growth, and all means should be used to encourage their development. Syringe over the whole every evening, immediately before sundown, closing the house at the same time in clear weather, and do not open when cloudy; be careful, however, to ventilate when the sun's rays burst suddenly out. The great object is to maintain an even temperature, or rather a gradual, but slow rise until midday, a steady heat till evening, and a corresponding fall from that time until midnight. The thermometer may be allowed to ascend to 85° or 90°. The advice as to training, fertilizing, &c., given in former chapters for the forcing-house, will now apply to this, and need not be repeated.

FORCING-HOUSE.

The earliest crop will now be ripe, and the next beginning to color. Water overhead ought to be discontinued in the latter, and entirely withheld in the former. Keep the house well aired by opening both the top and front ventilators. Let the airing be more or less abundant, according to the weather, ventilating freely when clear and warm, and closing the house when stormy and cool. As much as possible maintain a free circulation; for, if the grapes become covered with condensed moisture, the flavor is very much deteriorated, besides being liable to rot. If wasps or flies become troublesome, hang up phials partially filled with molasses and honey mixed together, or some sugar dissolved in water, with the addition of a small portion of rum. Either of these mixtures will entice them to enter the vessel, and both will destroy; the first by its adhesive consistency, and the second by its stupefying effects, causing the insects to fall into it, where they are drowned.

THE RETARDING-HOUSE.

This house may now be closed in the evening, and kept cool during the day, which may be accomplished by lowering the top ventilators far down. Do not open the front windows at all when cloudy, and no further at any time than is actually necessary to reduce the heat to 75° at noon. When the weather is settled and dry, an

occasional syringing in the evening may be applied, but this must be done with caution, on account of the liability to mildew; for this crop is more commonly attacked than any other. This affection does not often appear until next month, and will be fully discussed at that time.

STRAWBERRIES—CHAPTER VI.

HINTS FOR THE SEASON.

If not already done, lose no time in taking out all weeds and grass; and, if the plants are, as is usually the case, spread over the whole surface of the bed, thin them out, removing the weakest plants, and those that do not indicate blossom buds. The fault of letting the plants stand too thick is almost universal, and consequently the fruit is not so plentiful nor so large and sweet. This is especially true in regard to the deservedly popular kind, Hovey's Seedling. Few are aware of the fine qualities of this berry, simply because the plants are left to grow so thickly that the fruit is not sufficiently exposed to the sun to ripen it thoroughly. It makes fifty per cent. difference in the quality of this kind, when well exposed to the influence of the sun. It is usually picked before it is perfectly ripe. It is true that fine-looking fruit may be obtained when the plants cover the ground and cast a deep shade, so that the fruit is entirely in the shadow of the leaves; but it will not have its otherwise rich and juicy quality imparted by light, heat and air. About the same remarks apply to other varieties.

When the plants are, as they ought to be, in rows, now is the time, if not already done, to mulch the ground that it may be moist, and the fruit remain clean. Recently-cut grass, spread over the surface, is very suitable for this purpose. If the plants are in thick beds, it may not be so necessary to mulch; but if the ground is sandy, it will be a protection to the fruit, in case of beating rains, to scatter over the beds some cut straw: this will sink through the leaves, and protect the fruit from the sand being thrown upon it.

While the fruit is forming, the strawberry needs a great deal of moisture; therefore, if the season be dry, water liberally from the cistern. Some liquid manure may be used, if the plants are not vigorous; but this must be applied carefully—not too strong, nor too frequently—lest it induce a growth of foliage at the expense of the fruit.

When the berries begin to turn whitish, or ripen off, less moisture is necessary, as too much spoils the flavor. If very dry weather at this time, some rain water may be given around the plants, but not on the fruit. A slight sprinkle of well-water in the evening, with the *rose* of a watering-pot, is of service, too, assisting the ripening, but not injuring the flavor.

The strawberry in perfection should be picked when the plants are dry, set for an hour or two in the cellar or in the ice-house to cool, and not sugared until about ten minutes before being served. Large berries ought to be *cut in two*, previous to being sugared; the delicious aroma is thus preserved, and a generally agreeable acid en-

sured. If the fruit should be sandy from recent rains, put it into baskets, and pour well-water gently over it: this should be done *before* the calyx or hull is taken off.

We have had Hovey's Seedling so large that thirty would fill a quart basket, and in such perfection, it was no hardship to hull them at the table; if the strawberry could be thus served, it can be eaten in greater perfection. A little care, as already described, will give such fruit instead of the little sour, pea-like masses that are so eagerly purchased in many city and village markets.

Plantations may be made this month with success, if plants are taken up with care, and some earth thrown among the roots, or some moist moss, to keep them from being injured by the air. If immediately transferred to well-prepared ground, watered, and covered slightly with grass or hay, they will re-root and grow. Plant in drills, two feet apart, and the plants nine to fifteen inches from each other.

New beds planted in April or May should now be kept clean. Use liquid manure freely (but not too strong). Urine diluted with water or soap-suds, forms an excellent manure for growing plants not in bearing.

TOMATOES.

Our own table during the past three months, and up to this time, would furnish the most convincing argument we could advance in favor of providing a good supply of this *fruit*—for such we call it. We have at this season, not only tomato figs equal to the best Smyrnas, preserves as good as could be desired, but nice fresh Simon-pure tomatoes, as good as when first picked—not to mention tomato mangoes and pickles. If our readers will look out now, and get a good supply of the fruit growing, at the proper season we will tell them how *we* keep them. We intend to store for next Winter and Spring use a good many bushels—at least enough to have a daily supply for seven months after the frost kills the vines in Autumn. In this latitude, tomatoes *can* be raised from seed sown as late as the first week in June. But those who have neglected to sow seed until this date, should get, from others, plants already started, if this is at all practicable. If not, better try to raise them from seed. They bear transplanting well—at least as well as cabbage plants. They will grow on almost any soil—better, of course, on a good one. They need about the same culture as potatoes. For fuller directions, see page 102 (*May Agriculturist*).

PLANT SWEET CORN.

If you have not tried this crop, do so this season, and you will never regret it. There are few crops which will furnish nicer food for Summer, Autumn and Winter use. It may be planted to the middle of July for drying green, though any time this month is better. There is a choice in varieties, but any variety is better than none, and you will be lucky to find seed enough of any kind this year. We have distributed forty odd thousand packages to our subscri-

bers this Spring, of the Darling and Stowell varieties, which we hope will all be saved for seed another year. We are sorry to hear of two instances in which the seed sent to subscribers has failed to come up. The fault must have been in the weather and *too early* planting. We are *certain* that *all* we have sent out, has not only been of pure quality, but also in good condition. We have tested samples to be sure that it would vegetate.

DIELYTRA SPECTABILIS.

Among the hardy plants recently introduced into this country, few claim so distinguished a place as this. It is truly a floral gem, and destined to be a universal favorite. Though a native of China, it is perfectly hardy in almost any latitude in this country. It was brought to England by Mr. Fortune, and when it first flowered, created a great sensation. It is an herbaceous plant, very much resembling the Pæony in its manner of growth and general appearance, except the flower, and the more delicate texture of its foliage. It flowers early in the Spring, and continues in bloom over considerable time; sometimes it will throw out a second bloom. The flowers are borne on a drooping, graceful raceme, and are of a beautiful rosy pink color, and very abundant. They are singular, but remarkably graceful and elegant, resembling in form a lady's ricticle.

Unlike many other beautiful plants, its culture is very simple. A good garden loam suits it well, but the addition of some leaf mold will be of advantage. The crown of the plant should be placed two or three inches beneath the surface; in the open border, the plant will need no further care, except to keep the ground mellow and free from weeds.

The Dielytra is propagated from cuttings, but more readily by division of the root, which may be done either in Spring or Autumn; we prefer Autumn, as the plant starts very early in the Spring, and grows rapidly.

The Dielytra is also admirably adapted to pot culture, and forces well. By a little management, it may be brought into bloom in February. The plants should be lifted from the border in the latter part of November, and placed in good-sized pots, in a compost made up of old, well-rotted manure, loam, and sufficient sand to make it porous. The crown of the plant should be only slightly covered. The pot must be well drained by placing potsherds or (broken earthen-ware) in the bottom. Place them in a cold frame, about the first of January, when they may be brought in at intervals. As the plant is a rapid grower, much of the success will depend upon bringing it forward quickly. In order to do this, place it in a warm part of the house, and water freely. By bringing forward a few pots at a time, a long succession of blooms may be kept up; and few plants will yield a better return for the labor. In the Spring, the plants may be turned into the border again. The tops will sometimes die off about mid-Summer, but they will break forth strongly again in the Spring. We prefer to see it grown singly in the border, or in pots for Winter bloom, rather than used for bedding. There are few plants which will give such general satisfaction as the Dielytra spectabilis, and we strongly recommend its culture. They may be obtained from any respectable grower of plants for about 37½ to 50 cents each.

MANURE ARTICLES.—Our articles on Manures are by no means closed, and will not be for some years yet (if we live). We are only waiting time and room to treat the subject thoroughly.



FLOWERS FOR FARMERS.

Flowers for farmers! What have they to do with such things? Of what use are they? They will not help me pay for that new ten-acre lot, nor to buy that new carriage and harness, nor to get that new sofa and carpet for the parlor. No, no: let the flowers go. Drive the plow, and hoe, and scythe; sharpen the axes, and let us cut down all the old forest trees in sight, which do nothing but shade the highway and the pastures, and had much better be turned into bank-bills. And those useless posy-bushes Sarah has got in the front yard had better be grubbed up, and currant-bushes set in their place, or some kind of vegetables grown there; something, at least, that will help to feed the family. Then, perhaps, we shall get on.

Please sir, not quite so fast. Possibly you have not thought enough about this matter on all sides. Let us take it up and air it a little. Brother farmer, what do you live for? What is the great object of your thoughts and labor? If it is not the highest and best of all objects, viz.:—to be right, and to do right towards God and man—perhaps it is the next best thing, viz.: to be happy yourself, and to make others so. Well, does it make you really happy to deny yourself and your family rational enjoyments, to strip your house within and without of every luxury and ornament, in order that you may lay up a few more dollars and cents? If so, then hang up your harness in your wife's parlor, and turn your daughter's flower-beds into a kitchen-garden, and *enjoy yourself!* But if this can possibly make you happy, it will hardly be so with others. See your little children wandering about the premises, searching for flowers; they are never so happy as when they find a buttercup or violet. Should not that simple and natural taste be gratified? If they had a little garden of their own, where they might dig, and plant, and water, and indulge all sorts of childish fancies, would they not be happier, and would they not in after years have pleasanter recollections of their childhood's home, and fonder recollections of you? They *must* have amusements of some kind: would you not rather they should be innocent and healthful? You wish them to be happy and contented at home: should you not try to make their home attractive? Indulge in them such tastes as will make them happy there. Set them yourself an example in these things. Encircle the homestead with shade-trees planted by your and your sons' hands. Devote a small—we should like to say a *large*—space around the front

of your house to shrubbery and flowering plants, arranged by your wife's and daughters' tastes. And let these things come into your plans and your conversation every year, as things of real interest and value. You will, then, have no occasion to exhort your children to be happy at home. Their father's house will be their joy and pride. And whenever the time comes for them to go, one after another, to form new homes for themselves, they will leave you with fond regret, and their new homes will be patterned after the old.

Well, well, Mr. Editor, enough said: I must have such a home, whether I get rich or not. Now, please tell me just how to begin, for I have hardly thought of these things before.

We have already told you, in general terms; but to be more particular, take a few suggestions like these: Plant the roads leading to your house with double rows of forest-trees. The maple, ash, elm, bass-wood—what can be better? Set a few in groups here and there in your pasture lots: what finer sight from your door-step than your flocks lying at noon beneath their shade! Lay out a generous piece of ground on the front, and on one side of your house, for ornamental purposes, and surround it with a neat, low fence or hedge. Grade it smooth, and sow it with red-top grass seed and white clover—orchard grass and red clover are better, as you know, for the meadow. Cut out a few paths and cover them with gravel. On the outskirts of this lawn, plant a few fruit trees, but let those near the house be of the smaller and more ornamental kinds, such as the Mountain Ash, Larch, Horse-chestnut, European Linden. Intersperse a few evergreens, to make a cheerful scene in Winter; and for this purpose, what can be better than the Norway Spruce and the native Hemlock? Cut out a few flower-beds near the walks, and fill them with such plants as will give you a succession of flowers all the season. Do this thus: In some of the beds, set a variety of early-flowering bulbs, such as the Snow-drop and Crocus (blooming before the snow is quite gone), the Daffodil, Hyacinth, Narcissus, Tulip and the like, blooming one after another along into the Summer. When these begin to fade, sow annual flower-seeds, which will keep the same beds gay till Autumn. On other beds, set perennial plants, old-fashioned and new-fashioned, at least the old. Don't forget the charming native plants, such as the Spring Beauty, Liver Leaf, Crow-foot, Trailing Arbutus, and the like. Let the time-honored Pæonies have room here, and the Columbine, the Ragged Robin, Monk's Hood, Sweet William, Clove Pink, Larkspurs, Lily of the Valley, Violets, and others which old and young have always loved, and always will love. And then, if you choose, devote some space to Dahlias, Gladioli, Verbenas, and other "budding plants." Around your windows and doors, set climbing roses and honeysuckles.

When you have done these things, or *half* of them, you will have floral zeal enough, and floral love enough, to go on without

any more exhortation or instruction. When they are completed, you will find your home a thousand-fold pleasanter and happier. And neighbors and strangers, as they pass your premises, will stop and admire, and say: "There's a farmer who knows what's what; who is not a slave to mere money-making, but is enjoying life as he passes through it. He is a sensible man."

For the American Agriculturist.

KEEPING HOUSE IN THE COUNTRY.

It is generally supposed that there are two classes of people who keep house in the country, viz.: those who live there from choice, and like it; and those who live there from necessity, and don't like it. My experience has led me often among a third class, viz.: Those who live there from choice, and don't like it—a paradox truly—and oddly enough, they all give the same reason. Ask the estimable Mr. Jones, who bought, last year, the "country house with modern improvements, on a two acre lot, within an hour's ride of the city." We all remember how the family moved out, in a perfect ecstasy of rural enthusiasm. Ask him how he likes it now, and see if he don't answer, after due deliberation, "Why, it is just the thing for the children; fat as butter; they are tumbling in the sun and dirt, all day long; but my wife says she can't keep house in the country; she is just worried to death. I suppose we shall have to move back."

Whether he does or not, depends entirely on Mrs. Jones. If she has spirit and energy, and just a little spark of real love for the country, she will manage, through trial and trouble, to weather the first few years, and after that, though she may go on talking as usual about moving back to the city; at last her eyes will open to the fact that her cares have lessened, and her pleasures increased every day, until she can say with truth, that it is no more trouble to keep house in the country than in the city, and a great deal pleasanter. Let no farmer's wife, who cooks for fifteen field hands, lift her eyes in horror at this prophecy. I am not addressing you now, O, much-enduring woman; but Mrs. Jones, who, you would think, has neither work nor trouble, "with help in the kitchen, and nobody to cook for but her husband and children!" Mrs. Jones knows, and I know, that she has both, and if I can help her, I will, with all my "two years' experience," and something more, for I was to the country born.

But I must say, first of all, that I can't promise you much if you don't like the country. There are some people (Mr. T. S. Arthur is one of them, and writes a story every Spring to convince city people that they ought to stay at home all Summer) to whom "the country" is a word conjuring up visions of vulgar manners and deficient bathing apparatus, rancid butter and uncurtained windows; a place where the ceilings are always low, and the wash-pitchers have dead mice in them; where the days are made wretched by flies, and the nights terrible by beetles and screech-owls. We are very much obliged to you, Mr. Arthur, for the compliment to our house-keeping, as much as we were to Mr. Greeley for his condescending remarks on our cooking. My conscience! where could that man have visited? I never heard of such fare as he describes. Perhaps the unlucky family imported it at great expense from New-York, to do him honor; if so, what monstrous ingratitude!

But I am wandering from the subject. I meant only to say that if you have never felt any love

for the country; if March snow-drops and June roses, the budding green of April, and the scarlet glory of October offer you no compensation for the shop windows and the flutter of pearl fans at the opera; if the soft mosses in the grey old woods are not as welcome to your feet as the flags of Broadway; and you think an apple tree in blossom not to be compared to a milliner's opening; for any hope I can give you, you may as well move back to the city at once. Yet, No; perhaps time and the sweet influences of Nature may work a change in your tastes, and at least, for your children's sake, you will try to stay a little longer. Come then, and let us deal with your perplexities one by one; but this must be reserved for another article.

WINDHOLME, Pa., May 15, 1857.

EMILY.

From our Kentucky Correspondent. CANDLE AND SOAP-MAKING.

To the Editor of the American Agriculturist:

As I have just made some of the nicest tallow candles I ever saw, I will give my recipe for the benefit of young housekeepers. I bleached and hardened 34 pounds of very soft and yellow tallow and one pound of black beeswax, by gently boiling the tallow out-door in the sun two days, in two gallons of weak lye, stirring and skimming it often. Each morning I cut out the tallow and scraped off the bottom that was soft, and put in fresh lye, for two days. The third day I put in fresh water, in which was dissolved one pound of alum, one of saltpetre and a little blueing. After simmering, stirring, skimming and straining it, it was as clear and white as sperm, and ready to dip.

I bleached my wick very white, and gently twisted it around small cane rods; allowing for one dozen candles to weigh two pounds, I put on wicks for fifteen dozen candles for the 34 pounds tallow. When the tallow was hot I put half an ounce oil of bergamot in, which perfumed it sweetly. I then dipped the candles in the usual way, making them rather shorter for Summer, but as large as mold candles. When done, the end of the wick should be dipped in turpentine to cause them to light quickly, and the candles are *ne plus ultra*. Talk of a perfumed breath, it is not more agreeable than a perfumed candle. (I think I deserve a patent for my invention, but I will give it to your readers gratis.) We dipped them in two hours, and did not have one drop of tallow on the floor! We had two or three pounds left—it is not well to dip too close. We dipped them twice over after cutting off the ends, and as the weather was cool we boxed them immediately, to keep them from cracking, putting paper between each layer. I am sure they will be hard all Summer, and as good as the star candles.

SOAP MAKING.

In March I had two barrels of hard soap made in the following manner: Put strong ashes and a bushel of lime in a good hopper on staw; beat it down with a maul; put on water, and let the ashes rot a few days till it runs through strong. Then boil it down as you do sugar water for three days, or until there is a good deal of potash at the bottom; then boil your roughest grease, bones, skins, &c., in one kettle. If clear grease rises on top, skim it off and get out all the rough grease you can. Then, with a long fork, pick out the lumps and put them in the other kettle of lye and potash and that will eat them all up. Lather and try your soap, and if too strong put in the clear grease till it is of the right strength. If too weak add more potash. Stir an hour while the other kettle is being made, and you will have a barrel of good soap.

If you wish to refine some, melt it over in half a kettle of strong brine; stir till it boils; let it cool, and cut it off and dry in the sun. My soap maker firmly believes in the new moon.

"The aspect of the horoscope,
Is most favorable for making soap!"

GAPES IN CHICKENS.

The way they cure gapes in chickens in Kentucky, is to take the blue grass when it runs to seed, cut off the seed end, and put it down the windpipe of the chicken, and twist around a little, then jerk it out, and it generally brings the worms. It is said corn cake, baked in ashes, will prevent chickens having gapes.

Winchester, Ky.

MOLLIE BROOM.

RECIPES.

GINGER SNAPS—DOUGHNUTS—COOKIES.

To the Editor of the American Agriculturist:

The following recipes may be new and valuable to some of your readers.

To make Ginger Snaps.—Take one tablespoonful of ginger, one of lard, one teaspoonful of saleratus, half a pint of molasses, half a teacupful of water, with a sufficiency of flour. Knead soft, roll thin, and bake in a quick oven.

To make Doughnuts.—One pint of milk, one teacupful of shortening, two of sugar, one of yeast, three eggs, two teaspoonfuls of cinnamon, one of salt. Beat the eggs, sugar and spice well together, and stir in the other ingredients, with a sufficiency of flour. Fry in hot lard.

To make "Cookies."—One teacupful of butter, one of thick cream, two of sugar, one coffee-cupful of milk, one teaspoonful of soda, two of cream of tartar, and half a nutmeg grated fine, and flour to knead soft. Bake in a quick oven.

NEW-HAVEN, Conn.

ALICE.

For the American Agriculturist.

GOOD, PLAIN RECIPES.

Mr. L. W. Nichols, Jr., of Concord, sends us the following, with the assurance that they have all been most thoroughly tested by experience:

Excellent Plain Cake.—One cup of sweet milk; 1 of sugar; $\frac{1}{2}$ of molasses; $\frac{1}{2}$ of butter; 3 of flour; $\frac{1}{2}$ pound chopped raisins; 2 teaspoonfuls cream of tartar; 1 of soda; 1 of salt; 1 of cloves; 1 of cinnamon; 1 of nutmeg. Extract of lemon or rose-water, if desired. Mix the cream of Tartar thoroughly into the flour, and dissolve the soda in milk. Mix as usual. One-half lard can be used instead of all butter for shortening.

Superior Cake.—To the above ingredients, add 2 eggs well beaten, and 1 cup of English currants, and you will have an extra nice cake.

Sally Lunds.—One quart of flour, and 2 eggs; 1 pint of sweet milk; 2 tablespoonfuls of sugar; piece of butter, size of 2 eggs, rubbed into the flour, with a little salt, and 2 teaspoonfuls of cream of tartar; 1 teaspoonful of soda, dissolved in the milk. Bake in quick oven, in cups, in 20 minutes. Used to take the place of biscuit for tea.

Sponge Cake.—One cup of sugar; 1 teaspoonful cream of tartar; 1 cup of flour; $\frac{1}{2}$ teaspoonful of soda; 3 eggs, well beaten. The cream of tartar should be well mixed in the flour, and the flour stirred very gradually into the beaten eggs and sugar. The soda should be dissolved in 2 tablespoonfuls of milk or cream, and added just before putting into the oven.

Batter Pudding.—One quart of milk; 3 eggs; $\frac{1}{2}$ teaspoonful of soda; a little salt; mix to thin batter with flour (thinner than fritters). Bake in cups 20 minutes; eat with sweet sauce. It is equally as nice, and probably more convenient, to bake in a pudding-dish.

Bread and Butter Pudding.—A layer of quartered sour apples; a little nutmeg and sugar; a layer of dry bread buttered, (no matter how dry); another layer of apples, with sugar and nutmeg as before; and so continue until you have filled your pan, the first and last layer being apples; add 1 cup of water, or sufficient to wet the bread. Bake 1 hour, in a moderate oven; cat without sauce.

Lemon Pie.—Take 3 good-sized lemons, squeeze the juice, and chop the peel, and mix with 2 cups of molasses, 1 cup of sugar, 2 eggs, and a little salt. Pastry, as for any pie. Cover the bottom crust with a moderate thickness of the prepared lemons; place over this a second crust; then place more of the prepared lemon, and cover with top crust.

Extra Nice Baked Apples.—Take sour apples—those of a *keen acid*—and to every square tin filled with them, pour over a teacupful of water, and a teacupful of sugar. Bake slowly till done. Eat with cream, and the juice that cooks from them. "his is, indeed, excellent.

MINCE PIES.

To the Editor of the American Agriculturist:

In looking over the *Agriculturist* for January I saw a substitute for apples in mince pies. I send you another method. Take one citron, pare and slice; take out the seed; boil in clear water till soft; pour off the water, and boil it in vinegar until sour, then add your meat and seasoning the same as if apples were used, and you will have a pie that no one will detect from a pie made with apples. My wife has made all her pies in that way this Winter, and all who have eaten them pronounce them excellent.

Rockton, Ill.

D. M. PETTIBONE.

FOR THE BOYS AND GIRLS.

[Our whole paper is, of course, designed for "young" as well as grown up people; the following is for the Boys and Girls only.]

PROBLEMS FOR LAYING OUT GROUND.

Problem 1.—A gentleman has a square plot of ground in one corner of which is a house occupying just one-fourth of the lot.

In the house are four families, to whom the owner offers the use of the ground if they will divide it among themselves so that all the four plots shall be exactly alike in size and in shape or form, and each lot shall enclose one of the four apple trees standing in the position shown in the cut. Can they do it, and if so, how?

Problem 2.—Another gentleman has a lodging house situated in a square lot as shown in the cut.

In the house are five boarders, all of whom have asked the privilege of cultivating the ground around it. They also demand that all of the five plots shall be exactly alike in size and form, or shape, and

that each of the plots shall have two of the trees now growing. Being desirous not to offend his lodgers, the proprietor asks how he can make the desired divisions.

Answers wanted to the above in our next.

Which is the oldest, Miss Ann Tiquity, old Aunty Diluvian, Miss Ann Terior, Miss Ann Cestor, Miss Ann T. Mundane, or Miss Ann T. Cedent?

An Albany editor thinks his property would have been carried away by the late flood, had it not been for the heavy mortgages upon it



(From our Foreign Correspondence.)

THE CULTURE OF RAPE.

MUNICH, BAVARIA, March 30, 1857.

To the Editor of the American Agriculturist:

While the New Sugar Cane and other new plants are attracting all the notice, I wish to call attention to another crop that can hardly be said to be yet introduced, for most of the experiments have been on a very small scale, and generally undertaken without a knowledge of the true value of the crop. I mean *Rape*. Judging from the few notices in the Agricultural papers, I infer that the people who are enquiring about it, think its principal value is in its *feeding* qualities.

I have interested myself in its cultivation, in Southern Germany, in Switzerland, and in Western France, where it constitutes one of the most important crops, but its use for feed is but secondary, that of its seed for oil being the principal. Rape, (*Brassica Napus L.*) is botanically closely allied to the common turnip, (*B. rapa L.*) and varieties of the latter are often cultivated under the same name, and for the same uses as the former. There are many varieties adapted to various conditions of soil, exposure and climate. For oil, the Winter varieties are considered the most profitable. The seed is sown in August or September, the plants bloom in April or May, and are harvested in June or July. There is nothing very peculiar in the cultivation, more than in that of Wheat. It is sown either in drills or broadcast, the former being preferred if the locality is such that a dressing with the hand hoe is desired in the Spring, which of course improves the crops.

The Spring varieties are sown in March, (the Spring is a little earlier here than in New-York, or New-England,) and the crop is harvested in September, when kept for seed. The chance for a good yield is considered less than with the Winter crops; it is more likely to be injured by an unfavorable season.

The oil is extracted precisely like that from linseed (flax seed). The "cake" is fed to cattle but it is superior to that from linseed. And the oil is chiefly used for burning. I have used it all the time I have been in Germany. It is clear, burns with a pure clear light and without smell. I think it *fully* equal to the *best* kinds of fish oil, and it is much cheaper. Hence I infer that its culture in America will be profitable; it is here raised on land much dearer than that of New-York, or New-England, and the oil is sold much cheaper than whale-oil there. I have seen it in Baden, raised on land worth over \$100 per acre, and the oil sold for less than whale-oil (at retail) in the city of New-York. The best oil sells here in Munich, for 11 to 14 cents per pound, (21 to 26 kreutzers per Bavarian pound,) and the crop is not raised in the immediate vicinity, so it is somewhat dearer.

If *climatic* causes do not interfere, I am sure that money can be made from the crop in America; I want to see it fairly tried. It grows here in the same climate and on the same soil that produces wheat, barley, oats, turnips, and similar grains.

These are the *facts* of the case. I leave practical men to demonstrate its adaptability to American soils and climates. * * * WM. H. BREWER.

REMARKS.—The above letter came to hand just as our last number went to press in which we published the closing portion referring to the *Dioscorea*.

In regard to the culture of Rape, we made some investigations last season, both with regard to the feasibility of growing it in this country, its value for oil, &c. We were

much pleased with the samples of oil and their burning properties. The opinion we then formed, was, that the high price of labor would for a time work against the general culture of Rape here, and we have waited for further information before recommending it. Mr. Brewer, speaks quite strongly in its favor, and we shall make an effort to get a supply of seed for our next *Annual Distribution*, for the purpose of giving an opportunity to test it in different parts of the country.

OUR BASKET

Into which are thrown all sorts of paragraphs—such as: NOTES and REPLIES to CORRESPONDENTS, with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources. The printers always have access to this Basket when they "have nothing else to do."

Late vs. Early Planting of Corn.—Our Waterloo Correspondent, S. W., says upon this topic:

"I have been in the habit for more than thirty consecutive years, of planting corn both early and late each year on adjoining plots; planting the first rows from the 4th to the 10th of May, as weather served; and never in a single instance when I saved my own seed, did it ever rot in the ground, even when delayed from sprouting by cold wet weather; the second plot is planted as soon the first plants are above ground; but the early planted although it may entirely stop growing and turn yellow or even get singed by frost, it is still gaining root and when warm weather comes, it goes ahead of the later planted, and if the days are hot and dry it will not only be a week earlier, but the ears will be fuller and larger and the stalks heavier. It is an old and in part true saying, that July and August makes the corn; but for the crop to luxuriate instead of suffering in the heat and drouth of these months, the stalks must be perfected and the ears formed before the drouth begins; hence the necessity of planting in May, so that the growing plants may have the benefit of the long days of June to prepare them to stand the later drouths. As August is a tropical month with shorter days and cooler nights, corn grows slowly after the middle of this month. Even in this corn growing country, last season in some localities corn was injured by frost on the night of the 30th of August, and the pumpkin vines were killed, and although we generally have no frosts along the Lakes and outlets until October. Corn scarcely grows at all after the 10th of September, it may glaze after that time, but no ear fills well in September. It is true that on wet undrained fields, corn planted in Summer may do better than that planted earlier on the same ill conditioned soil; but I never yet had hope large enough to induce me to work against such odds; and methinks the day is now at hand, thanks to the labors of the agricultural press, when no farmer worthy of the name will be found attempting to grow a cereal crop on a soil, that needs the sun of Summer to make it dry enough to plow and plant. There is no doubt but that in a favorable season corn planted any time in June may mature a crop; and before the middle of June, even a large crop. But as a general rule late planted corn is deficient both in size of stalk and fullness of ear, while that which ripens before the 20th of August, is a perfect specimen of both ears and stalk. In the colder climate of Minnesota it is said that even dent corn planted in early June, rarely fails to ripen a perfect crop; there the new vegetable soil gives a rapid growth that no old worn region can hope to obtain. The mechanical structure of such a soil enables it to hold water by absorption, or capillary attraction, to sustain the crop through the most trying drouth, without the curl of a leaf; but when this vegetable soil is worn down by use, Minnesota will have to substitute Canadian corn for the large dent corn of the farther South."

REMARKS.—We are not at all surprized, that our views of planting corn late, i. e. from the 25th of May to the 5th of June, should call forth this remonstrance. It contradicts the practice of a large majority of our readers, we presume, and yet we think that a closer observation will correct that practice, and bring them round to our own views. We think our correspondent's philosophy is wrong in several respects. He assumes that the early planted corn, while the tops are yellow and frost bitten, is all the while making roots. Of this we have no proof. A closer observation will show him that the leaves of plants, and the branches keep pace with the roots, and that the one is a complement of the other. A germ begins to grow in two ways at the same time, sending a radicle downward, and a leaflet upward. Destroy the radicle,

the leaf will die. Destroy the leaf, and the root will fail, as we often see in the case of frost bitten beans. Injure the top, in any way, by mutilation or by cold, and the root is injured to the same extent. If our correspondent has never had occasion to replant his early corn fields, his experience is different from that of most farmers.

His second idea, that early planting is a remedy for drouth, is equally fallacious. If, as we have seen, the roots and branches of a plant are the complements of each other, early and late planted corn would be in about the same condition by the middle of July. The roots would cover about the same surface, and run to about the same depth. Salvation from drouth depends upon the mechanical state of the soil, much more than upon the condition of the roots of the plants. In a deep plowed, well drained soil, moisture, both would pass through safely. In a shallow soil, both would suffer.

It is quite manifest that our correspondent wants a little closer observation to correct his philosophy. We should have more confidence in his conclusion if he had stated that his two pieces of corn had been measured. The eye and the half bushel do not always agree in their testimony. Let him take the King Phillip corn, or some other that will mature in ninety days, well adapted to his climate and plant a half acre the 25th of May, and let him treat the two pieces in all other respects just alike. An accurate measurement of the grain and the stover at harvest time will give us some thing reliable to form a true theory upon. Though our experience, and observation have led us and many of our neighbors to late planting as the better practice, we are still open to conviction.

Cut Worm.—W. D., of Middlegrove, N. Y., says: "These worms are the great enemies of the corn crop, many acres being destroyed last season. I observed that where the grass started up afresh the corn was not injured, and this pointed out a preventive. At the time of planting, scatter a small quantity of rye or oats over corn fields, which will afford a green crop for the worms, and save most if not all the crop from their ravages. The sowed crop will be easily dug up at the first hoeing, at which time the corn will be out of danger. A little extra labor in this way may secure a full crop of corn, where only half a crop would otherwise be produced without it."

Corn Smut.—"An Inquirer" asks how to prevent this. Mix two parts of water to one of tar, warming it; soak the corn in it an hour or two, and dry off with slacked lime. The lime will kill the smut, while the coating of tar will not only hold the lime, but also act as a stimulant or fertilizer.

Keeping Early Potatoes.—T. R. Joynes, jr., of Va., wishes to know, how these may be kept through the winter in his climate. The difficulty we suppose to be from the tendency of the potato to sprout before it is time to plant. The germinating powers of the potato may be retarded, by keeping them in a dark, cool, dry atmosphere. These conditions are furnished well enough in latitude in a common house cellar. We should suppose that they might be kept in the same way in Virginia. The cellar must be protected from frost, and must be dark, cool and dry. It is practicable to keep down the temperature by ice, where there are potatoes enough to be preserved to pay for the expense. The ice can be managed as in a fruit room. The Early June is a good early variety though hardly equal to some of the newer sorts. We shall be very glad to hear from our correspondent on the concentrated fertilizers.

Millet—Sowing Grass Seed.—In answer to inquiries of H. D. Jellison, of Muscatine County, Iowa, and W. H. Wetherbee, of Worcester County, Mass., we would say: Millet may be sown for soiling, or curing, at any time during May and June, on well pulverized, dry soil. A liberal coating of manure will materially benefit this crop. If sown broadcast, which is the common method, 40 quarts per acre is a fair seeding. It ripens its crop from 60 to 75 days from sowing, but if cured as hay it should be cut when the seed is in its dough state. It grows too rank to form a good crop for sowing grass seed with. We advise W. H. W. to plow his land after the millet is off, and then sow grass seed. The last report of Secretary Flint to the Massachusetts Board of Agriculture, contains much useful information on time of sowing grass seed. The majority of experience in that State, is in favor of Autumn sowing. This information is given in detail in the work on grasses, noticed in our May number.

Striped Bugs on Squash Vines.—R. P. Post, of Greene County, N. Y., says he has a remedy, or preventive, against the squash bug, which has not failed during the several years he has tried it. Equal parts of finely-powdered charcoal and sulphur, are put upon the young plants as soon as they come up. This is repeated as often as washed off by the rain. He also recommends every one who has a garden to save the soot and fine ashes from their stove-pipes and flues, to dust upon turnips, cabbages, and radishes, to preserve from the garden flea

Native Grapes.—Rev. David Mills, of Pa., has barren grape vines, and wants to know the cause, and what to do with them. The cause is probably that they are poor, worthless, wild grapes. We never yet saw a native, taken from the woods, that was worth cultivating. The remedy is to get Isabellas, Catawbas, Dianas, or the Concord, and plant in the place of these wild grapes. With these old vines, he will lose his time and labor.

Kohl Rabi.—To Charles Pulsifer, of Christian county, Ill. This is a turnip-rooted cabbage, or, more properly, a turnip growing out of ground, seemingly upon a cabbage stump. It is sometimes called German turnip. Sow and cultivate as ordinary turnips, cooking and serving in the same manner.

Martynia.—A Western correspondent asks what it is, when to plant, and for what purpose raised. There are several varieties, which, from the peculiar form of the seed-vessels, are sometimes called Unicorn or Proboscis plants. They are handsome annuals—usually assigned a place in the flower-garden, although one variety, in addition to a fine bloom, is often cultivated for its capsules, which make an excellent pickle when green. Sow on a warm border, in the early part of May. It may be planted on the first of June, however.

Brussels Sprouts.—A subscriber in Janesville, Wis., who, from the cold and backward season, suggests that we prepare for Winter, asks what he shall do with his sprouts, now growing in a hot bed. If Winter is really coming out there, he better leave them in the hot-bed; but if appearances are fallacious, and Spring actually arrives with this number, let him plant out his sprouts and treat them as cabbages until Autumn. Except at the South, or in sheltered situations, they should be taken up upon the approach of heavy frosts, set in trenches, and buried to their lower leaves, covering the heads with straw or evergreen brush. The small heads may be cut at any time during the Winter, and the old stumps set out in the Spring for another year. They will continue to grow for two or three years.

Ants Among Flowers.—J. G. H., of Brooklyn. Pour hot water upon their "nest mounds," and paths in which they have burrowed. If water would injure plants, dust black pepper, Scotch snuff, or guano, upon the surface, each of which is offensive to ants.

Lice on Rose Bushes.—The whale oil soap, referred to on another page, is a good specific. Our correspondent will find it better than "snuff."

Pear Tree Matting.—G. M. asks if the matting on tea chests will answer to protect the trunks of pear trees. It will. It is not necessary to bind the covering closely around the tree, the chief object being to protect the trunk from our hot Summer sun.

Flower Gardening Books.—F. A. Bowen of Winebago County, Ill., asks for the best works on the Flower Garden. Buist's "Flower Garden Directory," price \$1.25; and Breck's "Flower Garden," price \$1, are both good works. There is a small book, "Every Lady Her Own Flower Gardener," price 25 cents. Value, as compared with first-named, about proportional to the price.

The Osage Orange.—We have conflicting accounts of this plant for hedges. With some it does very well; with others it is pronounced worthless. A recent letter from the West speaks of a large portion of those planted in the vicinity as failures.

PREPARING AND SOWING THE SEED.—A correspondent sends us the following: "Perhaps as good a way, and by many preferred, particularly at the North, is to procure the seed in the Fall, and mix with moist sand, put them in the coldest place you have, as on the north side of a house, where they will freeze thoroughly during the Winter, and plant in the Spring. If the seed be procured in the Spring, the planting may be deferred until the ground becomes warm. In the latitude of New-England any time during the month of May will answer. In order to have the seed vegetate quickly, it should be put to soak in soft warm water, and allowed to remain three, four, or five days, (even ten days,) or until they are very much swollen, and the germ begins to appear. Keep the water constantly warm by allowing the vessel to stand in a warm place covered with a cloth, and change the water daily to avoid fermentation; mix with a little dry earth or sand when you get ready to plant. The ground for the nursery should be a rich sandy loam, deeply plowed and finely pulverized. If you have none such, supply the deficiency by hauling sand or wood mold on to the best and richest spot of land you have, and mix thoroughly with the soil. Proceed to lay it out in drills 18 inches apart, and drop the seeds at intervals of one half inch in the row; cover with fine earth a few inches deep. Be sure to pat well the ground above, so as to press the earth tightly around the seed."

Deep Plowing.—J. J. R., of Louisville, Ky. Good hints.—received too late for discussion in this number.

King Philip Corn Wanted.—A. Fowler, of Farnumville, Mass., inquires where a half bushel can be purchased. We know of none for sale. If any one has it to part with, it should be advertised immediately, in the daily and weekly papers, stating prices, &c., as a great number of persons wish it in quantity, for late planting, and for replanting. It will be rather late to wait until our July number, though we will gladly depart from our usual custom, and announce, without charge, the names of any persons having any to part with. The older varieties may yet be planted, however.

Prairie Fences.—M. Joslyn, of Cedar county, Iowa, makes several important inquiries on this topic, which we must take time to consider. We shall have an eye to this, the present season, as we intend spending considerable time on our great Mississippi Valley farm, embracing Ohio, Indiana, Illinois, and the other Western States.

Potato Planting.—E. T. says, put them on the top of the ground, and cover with leaves, and they will not rot. Where shall we get leaves for a ten acre field?

Potatoes—More Wanted.—So says D. P. of New-Jersey, and so say we. We paid \$2 a bushel for some fair table potatoes, last week. At such prices, they would pay, if two-thirds of the crop rotted.

A Chance for Drain Tile Makers.—Mr. Joshua Meek, of Greenfield, Hancock county, Ind., some time since wrote, desiring particular information in regard to making drain tile; and that a person understanding their manufacture, would find an excellent opening there. We have not yet been able to find any one to meet the want. If this note does not call a reply from some practical man, we advise the farmers of Greenfield to encourage an experienced brick maker to visit Albany, Waterloo and Geneva, N. Y., and study the modes there pursued in tile making.

The Chess Question.—An avalanche of questions, notes, opinions and dissertations have been received. We were tired of the question, years ago. Our doctrine and belief is, that chess will produce chess, and that nothing else will. The seed will lie dormant in the ground for years, and when the conditions are all right, it will spring up abundantly—ten to one, just where you least expected it.

Teeswater Sheep.—"Earnest Farmer" will not find these equal to the Southdown, Cotswold or Leicester. The old Teeswater are nearly extinct, or at least superseded by the varieties above named. There is a cross between the Teeswater and Leicester, which rivals the old Teeswater both in carcass and fleece, but not, in our opinion, equal to the Southdown.

Spaying Cows with Sulphuric Acid.—A. P. L., of South Carolina. We know nothing of the practice you refer to. We should as soon think of "injecting" a rifle ball, to render a cow barren, as sulphuric acid. We confess ignorance in this matter of using acid.

Canal Sediments.—To A. M. Gibson, of Steuben County, N. Y. All such substances as the vegetable matter in bottoms of canals, ditches, &c., are highly valuable as fertilizers, and should be under the surface of cultivated fields, where they will cease to produce malaria and the resulting diseases, as they are sure to do if left to decay upon the banks or surface of the ground. On moderately light or sandy soils, they will need no previous preparation. On cold, heavy, wet soils, an after application of lime or ashes will be highly beneficial.

Sand for Manure.—"A Connecticut Plow-boy" recommends sand as preferable to muck for an absorbent in horse and cow stables. This cannot be so; but where muck cannot be had, sand may be used to advantage, especially if it can afterwards be applied to stiff or clayey soils. Dry clay loam is a good absorbent for stables, if to be used on sandy soils.

Green-house Books.—M. Kane, of Westchester county, N. Y., inquires for a good work on the treatment of green-house plants. Buist's "American Flower Garden Directory" is an excellent work on this subject. Price \$1.25. For a technical or scientific treatise, see notice, in this number, of Leuchar's Book.

Osage Orange at the West.—Mr. E. Colby, of Racine, inquires the fate of this plant in Central Illinois and Iowa, after the past severe winter. We shall soon start on an extensive tour of examination over our large Western farm, tillied by more than 12,000 practical men, and report upon this and other things. In the meantime let us hear from a multitude of correspondents on this point, also respecting the Wheat and Corn prospects.

Transporting Bees.—J. H., of Cayuga County, N. Y., does not see any necessity for inverting the hive when moving bees, as recommended in the May number. If they are only removed from one stand to another there is no necessity for this precaution, but when sent to a distance, it is far safer to invert them so that the comb

may rest firmly upon, instead of suspending from the attached partitions. It will be less liable to break off Spring wagons only should be used, jarring the hives as little as possible.

Pounds in a Bushel.—"A Farmer" writes respecting the "unreliability of the Register of Rural Affairs and Cultivator Almanac for 1857," and quotes, as an illustration, the table of pounds in a bushel, given on page 387. The table is certainly very defective. "Farmer" will find on page 127 of this number, a table of the true weights, which happened to be stereotyped before the reception of his note.

Mock Turtle Soup.—Rev. E. N. Nichols, of Michigan, asks a recipe for this article. We give him the following, from one, who in our opinion stands high among the cooks. Take a calf's head, a very cheap institution at this season of the year, and divide the upper from the lower half. Put both in a gallon of water and boil till tender. Strain the liquor, and let it stand till the next day, and then take off the fat. Three quarters of an hour before serving it, hang it over the fire and season it with pepper, salt, mace and sweet herbs tied up in a small bag, (the basil comes in here,) add half a pint of rich gravy, darken it with fried sugar, or brown flour; add the juice of two lemons, the yolk of eight eggs, boiled hard, forced meat balls. Just before taking up, pour in half a pint of wine. Please do not invite the Aldermen when you have this for dinner. Leave out the wine and you may invite Temperance men.

Sweet Corn for Coffee.—A. P., writes: "Sweet corn roasted and ground makes a pleasant coffee, and if well prepared and mixed with half, or a third of common coffee, can scarcely be distinguished from that made wholly of coffee."

Hot bed covering—a substitute for Glass.—D. P., of South Norwalk, Conn., recommends: "Make a frame with cross bars two feet apart and cover it with cotton cloth, painted with a composition made as follows: One quart whitewash, one pint linseed oil, whites of three eggs. This is much cheaper than glass and it prevents the danger of scalding the plants in a hot day. The forcing is less rapid, but the plants grow more hardy and are more likely to live."

Vegetable Nutrition, Tull, &c.—We have a long article on this subject too long for insertion. Had the thoughts been expressed in a fourth of the words, and written on only one side of the paper, we could have given it earlier attention. These remarks apply to sundry other articles received, but not thoroughly examined.

Cheap Bean Poles.—Mr. E. H. Avery, of Belvidere, writes (too late for our last): "The following may be useful on prairies and in villages where bean poles are not easily obtained. I sow early a bed of sunflower seeds, and at the time of weeding, I transplant a thrifty sunflower stalk to each hill of beans. The sunflower grows rapidly and soon produces a thrifty stalk around which the bean will entwine itself. Care should be taken to place an abundance of fertilizing materials to support both the plants; and also to remove the flower from the stalk."

REMARK.—Two years since a correspondent wrote us that he tried this plan, but the sunflower grew so fast that it drew the beans up by the roots.

Keeping House in the Country.—This communication from "Emily" on another page is an excellent one. Read it. We can find room for many more from the same facile pen.

Mapes & Gibbs' Rotary Digger.—We have on hand a report of the Beach Island Farmers Club, handling this implement "without gloves." We intended to comply with the request to publish it, but it would crowd over articles on more important topics. We are opposed also to giving the implement the "notoriety" of even a discussion of its merits or demerits. Mr. J. J. Mapes keeps a journal to advertise his own manures and implements. If people buy them on the strength of what they read in the "Working Farmer," and get into difficulty with Mr. Mapes, they must "take their chickens home to roost."

"Wife Wanted."—Under this head, "One Interested" writes to us, or rather to "mothers," a long chapter on the deficiencies of the present system of female education, to most of which we subscribe; but if "One Interested" waits till his lecture, or all we could say on the topic, shall put matters right, and educate the helpmeet he is looking for, he will become an old bachelor, we fear. Better look on the bright side of the picture, as it is. Do not indulge in thoughts about the "worthlessness of the mass of young ladies." There are plenty of unmarried, good girls in the country, as "bad as things are;" and if himself worthy, one possessing your discernment, cannot long go unmarried. We'll be happy to drop in after you get things fixed on your nice farm—we wish you all success, but it is out of our line to take any part in the preliminary arrangements.

NOTES UPON VALUABLE BOOKS.

[The country is now being flooded with books on Agriculture and Horticulture, Fruit Growing, Treatment of Animals, &c., some of them good, some bad, and some indifferent. We purpose, as we may have time and space, to set forth what we consider the claims of some of those most worthy of being procured and read. Many of this class of books we do not esteem deserving a notice even and shall pass them by, except to criticize those coming before the community with pretentious claims, but in themselves of objectionable. As we have before intimated, we held ourselves under no obligations to advertise any book by a "notice" because the publisher sends us a copy free. What we say in praise or blame of any work is wholly with reference to the interest of our own readers.]

Purchasing Books.—Book selling is no part of our business, and we would prefer to have all our readers get such works as they desire directly from the publishers, or from a regular book-seller. But many are remote from book stores, and are cautious about sending money to unknown publishers. To accommodate such, we will at any time be happy to procure any desired book, especially on any subject treated of in the *Agriculturist*. As a general thing we can send any book by mail *post-paid* on receipt of the regular retail price—the discount allowed us by publishers being just about enough to cover the cost of mailing.]

Let the Children Study Chemistry.

Were we asked to arrange the order of "studies" to be pursued by a boy or girl at school, we should answer, *practical Grammar, Arithmetic and Geography*, in connection with a thorough drilling in reading and writing, and *next CHEMISTRY* followed by *History, &c.* Without stopping to discuss the philosophy of this order we would briefly say that we look upon a knowledge of chemistry, in its relation to the objects and occurrences of every day life, as of the highest practical importance. There is scarcely an operation going on around us in the natural world which is not the result of some chemical law. Rain, ice, heat and cold, and the growth of all plants are results of chemical laws and changes, and to the study of these, we would direct the first attention of the child. Building fires, cooking, washing, soil culture, &c., are chemical operations, and we would early teach the principles involved, and the interesting changes and exchanges taking place among the atoms of the materials we handle, not only as a matter of immediate interest, but also with a view to the practical advantages resulting from a knowledge of the *why* and *how*. It has been customary to take the child at once from the elementary branches to the study of the abstruse principles of what is usually termed "Natural Philosophy," embracing Mechanics, Hydraulics, Hydrostatics, Electricity, Astronomy, &c. Now while these are important and should occupy a due portion of the advanced student's attention, we would *begin* by directing him, or her, to the simpler and more practical teachings afforded by chemistry. To illustrate, we would show the child what takes place when vinegar and saleratus are united, or when a mass of wood or coal is put into the stove and *apparently* consumed; how a beautiful and variegated plant or flower comes up from the ground; how from eating bread alone, is produced bones, nails, hair, blood, flesh, skin, nerves, &c.; how soda or saleratus added to sour milk, produces sweet, light biscuits, and a thousand other similar things that almost every day's experience presents to observation. The study of them is easy—not half so difficult as the law of falling bodies, the compound lever, the theories of light and electricity, the motions of heavenly bodies, &c., which are among the things discussed in the most elementary school "Natural Philosophy."

One hindrance to the introduction of the study of chemistry in our public schools, and in the family has been the lack of suitable books on the subject. Books without number have been written, but we have met with no one which seemed to be just adapted to the popular want. Children's chemistries has been either a "baby talk," or the cramped attempts of sturdy intellect to gambol in childish sports. A suitable book would, in our opinion, be one which should commence with the simplest principles, and develop these by illustrations drawn from objects and chemical changes immediately under the observation of every one. The work should begin with a description of simple, cheap experiments to be performed by the scholar with apparatus every where at hand. To illustrate; instead of a homily upon simple and compound bodies, we would mix before him or instruct him to mix the ingredients of a cake, for example, and show how the flour, sugar, soda, milk, butter, &c., in themselves so different from each other, when united, form a homogenous mass so entirely unlike any one of the original elementary substances entering into the compound. (We of course speak of these as elementary in a relative sense only.) To inculcate the idea of a gas, we would fill a glass vessel with clear vinegar, put a piece of

chalk or soda in the bottom, and turn over it a glass tumbler filled with water or vinegar, and point to the bubbles of gas rising into the tumbler. So every principle of synthesis and analyses (composition and decomposition) might be illustrated. There is scarcely a kitchen that does not contain apparatus enough to exhibit the primary principles of chemistry. We did not commence, however, to write a treatise on chemistry, but call attention to what kind of a book is wanted to adapt this important and useful branch of knowledge to the wants of the masses. We were led to this topic by an examination of a work on chemistry just published by A. S. BARNES & Co., of this city, from the pen of Prof. JOHN A. PORTER, of Yale College.* Though in many respects not quite the kind of book we have indicated above, it comes, perhaps, the nearest to it of any we have yet examined. A marked valuable feature is the simplicity of the apparatus employed or recommended for showing some of the more important principles of chemistry. A few earthen bowls, glass tumblers, common clay smoking pipes, bits of metal, and cheap substances obtainable at any country drug-store, have a prominent place in the experiments illustrated in the book. For a school book to be studied with the living teacher, it is very good. Though most of the principles of the science are stated in plain language there is rather too much brevity, and too great an aim at completeness, to fully adapt it to the comprehension of smaller children, and to the uneducated "children of larger growth," whom we would enlist in the study of this interesting and useful science. For a systematic work, the preliminary hundred pages devoted to light, heat, magnetism and electricity, are very well, but for an elementary work we would commence with the elements, composition and decomposition of bodies, and at first only introduce so much upon heat, light, &c., as might come in naturally to explain phenomena. But with these suggestions we still commend the work as eminently worthy of general introduction, not only as a text book in public schools, but also as a text-book and reading book in the family.

* 470 pages. Retail Price \$1.

A PRACTICAL TREATISE ON THE HIVE AND HONEY-BEE, by L. L. LANGSTROTH, with an introduction by Rev. ROBERT BAIRD, D. D. Second edition, enlarged and illustrated with numerous engravings. Published by C. M. SAXTON & Co., New-York, 1857. Price \$1 50; or \$1 60 if prepaid by mail.

The experience of any one engaged in bee-culture for fifteen or twenty years, is worth giving to the public; and especial value isto be attached to the observations and discoveries of such a man as Mr. Langstroth, who has made the instincts and habits of bees a matter of thorough and systematic study. The second edition of his treatise on bees has received our careful attention, and we gladly recommend it as superior to anything hitherto published. It is not a mere re-issue from stereotype plates, but each chapter bears marks of revision, and much new valuable matter has been added. Those who have the first edition will need this also. As a *manual of bee-culture* it is indeed liable to the objection of being too diffuse, and too full of remarks on other subjects. It would bear considerable pruning, and this process would both increase the value and diminish the cost of what remained. There is also a little want of harmony between the parts, as if the book had been a long time in passing through the press. But while we are free to say this, we rely upon the work as a most complete repository of facts, old and new; and one who has never seen it will be surprised to find what progress has been made in this department of natural history within a few years. No owner of half a dozen stocks of bees can afford to be without this volume. This is not the place for discussing the details of Mr. Langstroth's system of management, of which we will only say that its adoption will remove many embarrassments that have stood in the way of bee-culture; and while we are not sanguine in respect to all the results hinted at, we think it bids fair to supersede other systems.

An interesting chapter on a species of the honey-bee found in Italy and carried thence to Germany, will be entirely new to most persons. We shall have more to say of this Italian bee at some other time. It has been identified as one of the species described by Aristotle, 2,200 years ago, and supposed to have become extinct. The earliest account of it in modern times referred to by Mr. Langstroth, is found in a German periodical of 1848. We are surprised however, that it should have escaped his notice that *fifty years ago*, Spinola, in describing the insect of Liguria, mentioned this very species as different from the common bee, distinguishing it from others described by Reaumur, Della Rocca and Latreille, and claiming that it was the very one known to Aristotle. He said the ancients spoke of it as "more gentle than the common bee, swifter in its movements, far more unwearied with labor, and securing more honey." These statements correspond with the representations that now come to us from Germany; and we sincerely hope that success will attend the effort to introduce this invaluable bee into the United States. When this has once been done, it will be easy to multiply them indefinitely by Mr. Langstroth's methods of forming artificial colonies.

NIAGARA TO QUEBEC.—J. P. Jewett & Co., have published a pretty and convenient *Panoramic Guide* from Niagara to Quebec, which will be particularly interesting to those traveling over that route, either on a pleasure or business excursion. It contains descriptions and illustrations of the scenery on the route, besides a folding panorama opening out to near 12 feet in length, upon which is a connected picture of Niagara Falls and River, Lake Ontario, the St. Lawrence River, &c., with numerous illustrations of the objects of interest to be seen by the voyager. Price \$1.

DEVON HERD-BOOK.—The third volume of this book is in course of preparation by Sanford Howard, of Boston, and will probably be ready for delivery in July.

The Special Premiums for New Subscribers

offered in our May Number, are still continued. See page 117. They are worth looking to, particularly if you chance to want a supply of seed to sow for soiling, or green cattle feed.

Sugar-Cane Seed for Soiling at a Low Price.

As stated in a note on page 128, we shall have a small surplus of this seed, at the close of our free distribution, which is now about over for the season. This we shall be glad to have our subscribers try for soiling purposes. We have planted it in hills and drills, on a variety of soil, and with various fertilizers. We have just had a plot sown broadcast, at the rate of 10 pounds of seed to the acre, to see how it would grow in this manner. It will be cut at different stages of maturity and fed out, and the results noted. We shall be pleased to have our subscribers, who are so disposed, use our surplus of a hundred pounds or so, which we had provided to be sure of enough to meet all calls from our subscribers. To those who will try it for cattle feed, we will furnish what we have after June 1st, and in such quantities as they may desire, and at whatever price they may choose to pay towards its original cost, or, to avoid too great a demand, we will say at 50 cents a pound. As stated on page 128, it can be sown in drills, for soiling, at any time in June. We will put it up in bags holding a pound or more, as may be desired, and forward it by express or otherwise. The applications will be filled, *as fast as received*, until our supply is exhausted. Any money received afterwards will be returned at once to the subscribers.

This seed is of the best quality, and we are confident that, at least, none better has been offered in the country than both what we now have, and the 1,400 pounds we have scattered among our subscribers.

Crop Prospects—Our last item.

For several days we have had a great number of gloomy reports from various parts of the country. To-day (May 22), as we go to press, a large Western mail brings a batch of letters of an entirely different tone.

The sun now shines clear and warm, and Spring seems to have returned.

Business Notices.

Forty Cents a Line.

RATS, ROACHES, BED BUGS, INSECTS, &c.

The *London Quarterly Review*,
The *New-York Daily State Register* and others, on
"COSTAR'S" Rat, Roach, &c., EXTERMINATOR,
"COSTAR'S" Bed bug EXTERMINATOR,
"COSTAR'S" ELECTRIC POWDER, for Ants, &c.

The *London Quarterly Review* contains near a column, and the *New-York Daily State Register*, of May the 1st says: "No judicious housekeeper should defer purchasing a supply of these invaluable remedies for clearing their houses of all sorts of vermin. With all confidence we can recommend them as indispensable articles for every family."

The *New-York Journal* for April has the following: "COSTAR'S" Remedies for all domestic pests, such as Rats, Cock Roaches, Bed Bugs, Ants, Fleas, &c., are said to be invaluable; indeed, we can speak from actual knowledge of their rare merits. The name of 'Costar' is a 'household word' to New-Yorkers and his Depot, No. 388 Broadway, New-York, is thronged by thousands daily. As the Summer approaches we advise every one who would be rid of the above named pests to send and procure a timely supply of the Exterminator. DRUGGISTS and DEALERS also should send their orders early, if they would secure a trade in articles for which there is a constant demand, and on which a fair profit may be realized."

"COSTAR'S"

Principal Depot, No. 388 Broadway, New-York, and sold by DRUGGISTS and DEALERS everywhere in the United States, Canada, West Indies and South America.
See Advertisement. Full particulars by mail.

What is "Imphee"?

This question has been asked by a great number of our correspondents. In reply, we would say that Mr. Leonard Wray recently brought into this country several varieties of seed which he calls "African Imphee," and which he claims is superior to the Chinese Sugar-Cane, or Sorghum. He positively declined parting with the smallest quantity of it, even for experiments, as he proposed to retain a monopoly of the seed to be grown here. He is now cultivating it in South Carolina, we believe. A friend of ours obtained a quantity of it in France, and is now cultivating several acres. We have procured a little for a test experiment. Mr. Wray also brought over with him some 1,500 pounds of the Chinese Sugar Cane, or Sorghum, which he sold to a party in this city, and made out a bill for it as "Chinese Imphee," as we are informed, and this led it to be advertised under that name, (Chinese Imphee.) We are not aware why Mr. Wray gave it this name. He plainly stated to us that our Sorghum Seed was the same as his own sold here, and that ours was raised by himself and Count de Beauregard, at Toulon, France.

Mr. Wray claims that the African Imphee grows more rapidly than the Chinese Sorghum, and that it is in other respects superior. This is yet to be proved, and also, if like the Sorghum or Chinese Sugar-Cane, it is adapted to our northern climate.

Michigan State Agricultural College.

This institution was dedicated on the 13th inst., under the Presidency of Mr. Williams. In connection with it is a farm of 700 acres, three miles east of Lansing. The tuition is free, and the students will be required to work three hours a day, and be paid for their labor. There are accommodations for 80 students. It is the first State Institution established on the Continent. Its first endowment was \$56,000, the proceeds of Salt Spring Lands, originally donated by the General Government to the Territory of Michigan. The sum of \$20,000 per annum for the next two years has been nobly appropriated by the enterprising State of Michigan to this object.

Trials of Implements.

An Exhibition of Implements, including Mowers, Reapers, Clover and Grass Seed Harvesters, Hay Rakes, Jedding or Spreading Machines, Hay and Cotton Presses, Hay Pitching Machines, Grain Cradles, Hand Rakes and Forks, Grass and Grain Scythes, and Seythe Snaths, will be held at Syracuse, N. Y., during the early part of July, under the auspices of the United States Agricultural Society. The exact time of the trial will depend upon the forwardness of the crops to be operated upon, of which due notice will be given to each exhibitor. Full particulars may be obtained by addressing Hon. M. P. Wilder, President, Boston; Ben. Perley Poore, Secretary, Newburyport, Mass.; or J. E. Holmes, Newark, Ohio, who will be the Superintendent of the Implement Trial.

There will also be an Extensive Trial of the above Implements, at Chestertown, Maryland, in the latter part of June, under the auspices of the State Society. For particulars, address S. Sands, Secretary, Baltimore.

The OHIO STATE BOARD OF AGRICULTURE will hold a large trial of MOWERS and REAPERS, at Hamilton, Butler county, commencing Wednesday, July 1st. For particulars, address John H. Klippart, Corresponding Secretary, Columbus, Ohio.

Shall We Use so Much Small Type?

An aged correspondent thinks we are introducing "too much small type." It "troubles his eyes." We sympathize with him and others, and have fought against the innovation for a long time. But though a bushel of chaff may be crowded into a peck measure, we cannot do this with plump, sound wheat. The fact is, we abbreviate ("boil down," as editors say), all the articles, cutting out a line here and another there, leaving out introductions and perorations from communications, and from many editorial articles, but still cannot find room for half we wish to introduce into each number. We have thought of enlarging, though adding two pages would cost us \$500 a year for the printing paper alone, and any addition to the present size would double the postage to each subscriber. Still, if our subscription list continues to increase as heretofore, we shall make each number one third larger, say on and after October or November next, and then we can do away with a portion of the "small type." In the meantime we must put several pages of even valuable articles in type like this, (Nonpareil,) as we can thus stow away twice as much reading matter; and we trust our aged readers will brush up their "spectacles," choose a good light to read by, and look to the amount and quality rather than the dress it appears in.

FARM FOR SALE.—We take pleasure in referring to the extensive farm offered in our advertising columns by S. T. Taber. It is perhaps enough to call special attention to it by saying that the location is on Chestnut Ridge, in Dutchess County, N. Y.

Back Volumes.

We have now spare copies of Volumes XII., XIII. and XIV. only. Price unbound, \$1 per volume, or \$1 25 if prepaid by mail. Price, bound, \$1 50 per volume, not mailable.

With a single exception, the actual regular circulation of the *Agriculturist* to subscribers is about **Fifteen Thousand greater** than that of any other Journal in the World devoted to Agriculture and Horticulture only.

Advertisements.

TERMS—(invariably cash before insertion):
Twenty-five cents per line (of ten words) for each insertion. By the column or half column, \$30 per column for the first insertion and \$25 for each subsequent insertion.
Business Notices Forty cents a line.
Advertisements to be sure of insertion must be received at latest by the 20th of the preceding month.

EVERY MAN HIS OWN ARCHITECT.

The way To Build a Country House is to get **RICH'S AMERICAN ARCHITECT.**
Price \$6.
Published by C. M. SAXTON & CO., No. 140 Fulton-st., New-York.

RURAL ARCHITECTURE. By L. F. Allen, Embracing Out Buildings as well as Cottages and Farm Houses. Price \$1 25. At SAXTON'S, No. 140 Fulton-st.

LAY OUT YOUR GROUNDS by DOWNING'S LANDSCAPE GARDENING. Price \$3 50. Published by C. M. SAXTON & CO., No. 140 Fulton-st., N. Y.

POULTRY—LOOK OUT FOR YOUR CHICKENS; and the best way to do that is told plainly in **THE AMERICAN POULTRY YARD.**
Price \$1.
Published by SAXTON & CO., 140 Fulton-st., N. Y.

PUT UP GOOD GREEN-HOUSES THIS SUMMER, And get ready for Winter. **LEUCHAR'S HOW TO BUILD.**
Gives full directions. Price \$1 25. To be found at SAXTON & CO.'S, No. 140 Fulton-st., New-York.
Sent free of Postage on receipt of price.

"GET THE BEST."

WEBSTER'S QUARTO DICTIONARY—UNABRIDGED.
SOLD BY ALL BOOKSELLERS.

"ALL YOUNG PERSONS SHOULD have a Standard Dictionary at their elbows; and while you are about it, get the best; that Dictionary is NOAH WEBSTER'S, the great work, unabridged. If you are too poor, save the amount from off your back, to put into your head."—*Ph. Journal.*

WEBSTER'S QUARTO DICTIONARY.—Everybody knows about Webster's Dictionary, and every man, woman and child, ought to have access to it.

It will tell you everything in regard to your mother tongue which you want to know. It shows you the words in all their aspects—giving you a sort of history of each individual that is in any way worthy of attention.

Every farmer should give his sons two or three square rods of ground, well prepared, with the avails of which they may buy it. Every mechanic should put a receiving box in some conspicuous place in the house, to catch the stray pennies, for the like purpose.

Lay it upon your table by the side of the Bible—it is a better expounder than many which claim to be expounders."—*Mass. Life Boat.*

Published by

G. & C. MERRIAM,
Springfield, Mass.

To Persons out of Employment.

WANTED—IN EVERY COUNTY IN the United States, active, industrious and enterprising men, as Agents for the sale, by subscription, of valuable and interesting Books; all of them being expressly adapted to the wants of every family, and containing nothing of a pernicious or injurious tendency. Our Publications are among the best in the country, and good Agents can realize a profit from \$2 to \$3 per day by engaging in the business. A small capital of only \$20 to \$50 is required. For further particulars, address

ROBERT SEARS, Publisher,
No. 181 William-street, New-York.

AGENTS WANTED.—EXCELLENT BUSINESS OPENING.—Wanted a few energetic, industrious Men, to SELL AGRICULTURAL BOOKS among the Farmers. Very favorable terms will be given. With proper attention, more than \$100 per month clear profit above all expenses can be realized. A rare chance to make money without risk. For particulars, apply immediately to C. M. SAXTON & CO., Agricultural Book Publishers, No. 140 Fulton-st., N. Y.

CHINESE SUGAR-CANE SEED,
75 Cents per Pound.

The subscriber has a few hundred pounds of the best Chinese Sugar Cane Seed (called also "Chinese Imphee," "Sorgho," &c.), which will be sold during the remainder of the season, in small or large quantities, to suit purchasers, at seventy-five cents a pound.

This seed was grown by Leonard Wray, Esq.
R. L. ALLEN, 189 Water-street, New-York.

THE SHORT-HORN BULL GOVERNOR,

for sale at a bargain. He is one of the best bred Bulls in the country, good size, fine form, &c. For pedigree, see (511) American Herd Book, Vol. 2d, page 153.

J. F. SHEAFE,
New-Hamburg, Dutchess Co., N. Y.

RUSSIA OR BASS MATS, GUNNY BAGS, TWINES, &c., suitable for Nursery purposes, for sale in lots to suit, by

D. W. MANWARING, Importer,
248 Front-street, New-York.

C. S. WAINWRIGHT'S
FIRST PUBLIC SALE OF THOROUGHBRED
NORTH DEVON CATTLE,
TO BE HELD AT "THE MEADOWS," ON THE 17TH DAY OF
JUNE, 1857.

THE SUBSCRIBER INTENDS HOLD-
ing his first Public Auction of North Devon Cattle, on the above-mentioned day, at his residence, "The Meadows," four miles north of Rhinebeck Station, on the Hudson River Railroad, New-York. The animals to be sold will number between twenty and twenty-five head, males and females, from calves to full-grown, all of which have been either bred or imported by himself, and have perfect Herd-Book Pedigrees.
Catalogues, containing full Pedigrees, and all necessary information, will be ready on the 15th of April, and will be forwarded to all desiring it. The subscriber will be happy to have gentlemen visit his herd at any time.
All sales will be bona fide, and no animal on the Catalogue will be sold until the auction.

C. S. WAINWRIGHT,
"The Meadows," near Rhinebeck, N. Y.

PERUVIAN GUANO,

In large or small quantities
R. L. ALLEN, 189 Water-street, New-York.
Beware of adulterated or damp GUANO, and of all other Fertilizers that can be mixed or depreiated without detection. The demand for Artificial and Commercial Fertilizers is now so large in the United States, that it is becoming a great object to adulterate them. This has been done to so large an extent in England, as to have called for the most stringent measures for the exposure of rascality and the protection of farmers.

No. 1 PERUVIAN GUANO.

SUPERPHOSPHATE OF LIME, BONE DUST, POUDETTE, &c. For sale by **GRIFFING BROTHER & CO.,** 60 Courtland-st., New-York.

PERUVIAN GUANO—THE BEST quality of Peruvian Guano, with Government weight and brand on each bag, by the carco, or in smaller quantities, at the lowest price to be had in this market.

SUPERPHOSPHATE OF LIME. Being agent for the most extensive manufacturers, I can supply a first rate article, at the lowest manufacturers' prices.
BONE DUST, coarse and fine ground, also sawings and filings.
POUDETTE and TAFEU by the barrel.
PLASTER, &c. &c. &c.

This warehouse is the largest depot in the United States for the various kinds of Fertilizers, all of which are guaranteed of the most reliable quality.
Agricultural and Horticultural Implements, Field and Garden Seeds, a large assortment of all the improved kinds.
R. L. ALLEN, 189 Water-st., New-York.

**SIX REASONS WHY EVERYBODY USES LYON'S KATHAIRON.**

- 1st. It is the CHEAPEST preparation for the hair ever made.
- 2d. It is pronounced by all to be the MOST BENEFICIAL.
- 3d. It is the most AGREEABLE to use.
- 4th. It is the CLEANEST and most CAREFULLY PREPARED.
- 5th. It is the most HIGHLY PERFUMED.
- 6th. It is the only article that never fails to give ENTIRE SATISFACTION.

The immense sale of the KATHAIRON—nearly 1,000,000 bottles per year—attest its excellence and universal popularity. Sold by all dealers, everywhere, for 25 cents per bottle.

HEATH, WYNKOOP & CO.,

Proprietors and Perfumers,
63 Liberty-street, New-York.

**"COSTAR'S" RAT EXTERMINATOR.**

An infallible destroyer of RATS, MICE, ANTS, GROUND MICE, MOLES, &c. &c. (Not dangerous to the Human Family.) Rats do not die in their holes, but come out and die.

Put up in 20c., 35c., 65c., \$1, \$2, \$3, and \$5 Boxes.

"COSTAR'S" BED BUG EXTERMINATOR.

Never known to fail—and used every day by thousands in New-York and elsewhere.

Put up in 25c., 50c., 75c., \$1, \$1 50, \$2 50, and \$4 50 Bottles.

"COSTAR'S" ELECTRIC POWDER.

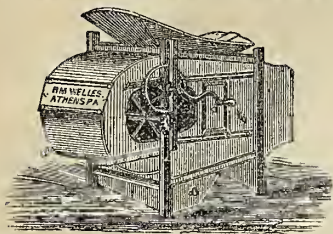
For the destruction of MOTHS, MUSQUITOES, FLIES, FLEAS, PLANT INSECTS, VERMIN ON FOWLS AND ANIMALS, &c. &c.

Put up in 25c. and 50c. Boxes.

Sold Wholesale and Retail at "COSTAR'S" PRINCIPAL DEPOT, 388 BROADWAY, NEW-YORK, and by the principal DRUGGISTS and DEALERS throughout the United States, the Canadas, West Indies, California and South America.

Orders must always be accompanied by the cash.
No goods sent on commission.
Small Sample Packages put up at the lowest wholesale prices for first orders in new places, with Cards, Show-bills, Posters, &c. &c.
Packages expressly put up for Ships, Steamboats, Hotels, Public Institutions, &c.
Full particulars to Wholesale Dealers—scales of prices, &c. &c., will be promptly mailed on application.
Address "COSTAR," No. 393 Broadway, New-York.

ALLEN'S IMPROVED MOWER, AND MOWER AND REAPER—the best in America. A large assortment of the most approved Agricultural and Horticultural implements, of good quality and at low prices. For sale by **R. L. ALLEN,** 189 and 191 Water-st., New-York.



THE IMPROVED PREMIUM EXCEL-SIOR FANNING MILL.—This is the best, handsomest, and cheapest Fanning-Mill known, and is warranted to be second to no other made in the United States, for durability, simplicity, rapidity in doing work, or for any of the purposes for which a good Fan-Mill is designed.

Manufactured only by us at the **TIOGA POINT AGRICULTURAL WORKS.** Price \$25. A very liberal discount made to dealers, who are invited to order a sample Mill.

R. M. WELLES & BROOKS, Athens, Bradford Co., Pa.

Agents for New-York city: **GRIFING BROTHER & CO.,** 60 Courtland-st.



New-York State Tile Works.

On the Western Plank Road, near the Orphan Asylum, Albany, N. Y.

The subscriber having purchased the Drain Tile Works of Archer & Co., offers for sale the following-sized Tile: Horse Shoe Tile cut 14 inches long—

Pieces.	2 1/2 in. calibre.	3 in. calibre.	3 1/2 in. calibre.	4 in. calibre.	4 1/2 in. calibre.	5 in. calibre.	5 1/2 in. calibre.	6 in. calibre.	6 1/2 in. calibre.	7 in. calibre.	7 1/2 in. calibre.	8 in. calibre.
15	12 per 1,000	12 per 1,000	12 per 1,000	12 per 1,000	12 per 1,000	12 per 1,000	12 per 1,000	12 per 1,000	12 per 1,000	12 per 1,000	12 per 1,000	12 per 1,000
18	15	18	21	24	27	30	33	36	39	42	45	48
21	18	21	24	27	30	33	36	39	42	45	48	51
24	21	24	27	30	33	36	39	42	45	48	51	54
27	24	27	30	33	36	39	42	45	48	51	54	57
30	27	30	33	36	39	42	45	48	51	54	57	60
33	30	33	36	39	42	45	48	51	54	57	60	63
36	33	36	39	42	45	48	51	54	57	60	63	66
39	36	39	42	45	48	51	54	57	60	63	66	69
42	39	42	45	48	51	54	57	60	63	66	69	72
45	42	45	48	51	54	57	60	63	66	69	72	75
48	45	48	51	54	57	60	63	66	69	72	75	78
51	48	51	54	57	60	63	66	69	72	75	78	81
54	51	54	57	60	63	66	69	72	75	78	81	84
57	54	57	60	63	66	69	72	75	78	81	84	87
60	57	60	63	66	69	72	75	78	81	84	87	90
63	60	63	66	69	72	75	78	81	84	87	90	93
66	63	66	69	72	75	78	81	84	87	90	93	96
69	66	69	72	75	78	81	84	87	90	93	96	99
72	69	72	75	78	81	84	87	90	93	96	99	102
75	72	75	78	81	84	87	90	93	96	99	102	105
78	75	78	81	84	87	90	93	96	99	102	105	108
81	78	81	84	87	90	93	96	99	102	105	108	111
84	81	84	87	90	93	96	99	102	105	108	111	114
87	84	87	90	93	96	99	102	105	108	111	114	117
90	87	90	93	96	99	102	105	108	111	114	117	120
93	90	93	96	99	102	105	108	111	114	117	120	123
96	93	96	99	102	105	108	111	114	117	120	123	126
99	96	99	102	105	108	111	114	117	120	123	126	129
102	99	102	105	108	111	114	117	120	123	126	129	132
105	102	105	108	111	114	117	120	123	126	129	132	135
108	105	108	111	114	117	120	123	126	129	132	135	138
111	108	111	114	117	120	123	126	129	132	135	138	141
114	111	114	117	120	123	126	129	132	135	138	141	144
117	114	117	120	123	126	129	132	135	138	141	144	147
120	117	120	123	126	129	132	135	138	141	144	147	150
123	120	123	126	129	132	135	138	141	144	147	150	153
126	123	126	129	132	135	138	141	144	147	150	153	156
129	126	129	132	135	138	141	144	147	150	153	156	159
132	129	132	135	138	141	144	147	150	153	156	159	162
135	132	135	138	141	144	147	150	153	156	159	162	165
138	135	138	141	144	147	150	153	156	159	162	165	168
141	138	141	144	147	150	153	156	159	162	165	168	171
144	141	144	147	150	153	156	159	162	165	168	171	174
147	144	147	150	153	156	159	162	165	168	171	174	177
150	147	150	153	156	159	162	165	168	171	174	177	180
153	150	153	156	159	162	165	168	171	174	177	180	183
156	153	156	159	162	165	168	171	174	177	180	183	186
159	156	159	162	165	168	171	174	177	180	183	186	189
162	159	162	165	168	171	174	177	180	183	186	189	192
165	162	165	168	171	174	177	180	183	186	189	192	195
168	165	168	171	174	177	180	183	186	189	192	195	198
171	168	171	174	177	180	183	186	189	192	195	198	201
174	171	174	177	180	183	186	189	192	195	198	201	204
177	174	177	180	183	186	189	192	195	198	201	204	207
180	177	180	183	186	189	192	195	198	201	204	207	210
183	180	183	186	189	192	195	198	201	204	207	210	213
186	183	186	189	192	195	198	201	204	207	210	213	216
189	186	189	192	195	198	201	204	207	210	213	216	219
192	189	192	195	198	201	204	207	210	213	216	219	222
195	192	195	198	201	204	207	210	213	216	219	222	225
198	195	198	201	204	207	210	213	216	219	222	225	228
201	198	201	204	207	210	213	216	219	222	225	228	231
204	201	204	207	210	213	216	219	222	225	228	231	234
207	204	207	210	213	216	219	222	225	228	231	234	237
210	207	210	213	216	219	222	225	228	231	234	237	240
213	210	213	216	219	222	225	228	231	234	237	240	243
216	213	216	219	222	225	228	231	234	237	240	243	246
219	216	219	222	225	228	231	234	237	240	243	246	249
222	219	222	225	228	231	234	237	240	243	246	249	252
225	222	225	228	231	234	237	240	243	246	249	252	255
228	225	228	231	234	237	240	243	246	249	252	255	258
231	228	231	234	237	240	243	246	249	252	255	258	261
234	231	234	237	240	243	246	249	252	255	258	261	264
237	234	237	240	243	246	249	252	255	258	261	264	267
240	237	240	243	246	249	252	255	258	261	264	267	270
243	240	243	246	249	252	255	258	261	264	267	270	273
246	243	246	249	252	255	258	261	264	267	270	273	276
249	246	249	252	255	258	261	264	267	270	273	276	279
252	249	252	255	258	261	264	267	270	273	276	279	282
255	252	255	258	261	264	267	270	273	276	279	282	285
258	255	258	261	264	267	270	273	276	279	282	285	288
261	258	261	264	267	270	273	276	279	282	285	288	291
264	261	264	267	270	273	276	279	282	285	288	291	294
267	264	267	270	273	276	279	282	285	288	291	294	297
270	267	270	273	276	279	282	285	288	291	294	297	300
273	270	273	276	279	282	285	288	291	294	297	300	303
276	273	276	279	282	285	288	291	294	297	300	303	306
279	276	279	282	285	288	291	294	297	300	303	306	309
282	279	282	285	288	291	294	297	300	303	306	309	312
285	282	285	288	291	294	297	300	303	306	309	312	315
288	285	288	291	294	297	300	303	306	309	312	315	318
291	288	291	294	297	300	303	306	309	312	315	318	321
294	291	294	297	300	303	306	309	312	315	318		

MARKET REVIEW, WEATHER NOTES, &c.

AMERICAN AGRICULTURIST OFFICE, NEW-YORK, May 22, 1857.

The Produce Markets have generally been brisker, during the past month, the opening of inland navigation contributed to the activity. The reports of much reduced supplies, of Breadstuffs, and of the poor appearance of the growing crops, has also served to stimulate business. These reports have been used to influence our market, so as to benefit speculators alone, the true state of the stock of Produce in the country, and the real condition of the growing crops, are not near as bad as interested parties have represented, speculators, however, have diligently labored to spread the gloomiest predictions; and for a while they succeeded in deceiving both producers and consumers. They had previously secured large quantities of produce, and they calculated that they could rule the markets. But in developing this project, they miscalculated the extent of their means, and when pressed for money, they have been obliged to surrender to the potent influence of the legitimate laws of supply and demand. The effort to create a famine panic proved abortive,—and though prices of the leading kinds of flour and grain have advanced considerably during the month, they closed heavily and languidly—buyers having at this date any existing advantage. The home demand is now the main reliance of factors; speculation has partially ceased, and the export movement is insignificant. Cotton is slowly improving in demand and value. Provisions are in good request, and the leading articles are quoted higher. Butter and cheese being the only commodities that are cheaper. Groceries are generally brisker and dearer, with reduced supplies available. Hay is less abundant, and is in lively request at decidedly better prices. Hemp, Hops and Grass Seeds are quiet and rather languid. Tallow is saleable and steady. Tobacco is in poor supply and fair demand at full rates. Wool rules quite dull and heavy, though the available stock is not large. The very limited inquiry for all descriptions disheartens owners. These are desirous to sell, but they can not find buyers unless at prices which they are not disposed to accept. Quotations are wholly nominal. Other commodities are moderately inquired for at about former prices.

As we go to press—business on the Corn Exchange, especially in Indian corn, is seriously impeded by the disagreement of dealers about the number of pounds of corn which should now constitute a bushel. It has been customary to allow 56 lbs. to the bushel, and sellers generally refuse to exceed this allowance. An act passed during the recent session of the State Legislature, however, decreed that 58 lbs. of corn should constitute a bushel, and most buyers contend for this amount. So far no reconciliation of opinion has been effected on the subject, and the protraction of the dispute serves only to obstruct business.

We annex a comparative list of the closing prices of the principal agricultural products, last month and this, showing the fluctuations since our previous issue:

Table with columns for April 24 and May 22, listing various agricultural products like Flour, Wheat, Corn, etc., with their respective prices and changes.

The subjoined tabular statement presents summaries of the total receipts of the leading kinds of Breadstuffs, by railroad, river and coastwise, and of the total sales, here for twenty-four business days, ending to-day, as well as of the exports from the port of New-York for the same period:

Table showing Receipts, Sales, and Exports for Wheat Flour, Wheat, Corn, Rye, and Barley.

These summaries enable us to make the following comparison of the receipts and sales:

Table comparing Total 24 days this month and last month in bushels for Receipts and Sales.

Increase this month, in bushels. 28,000

They also afford the following comparison of the exports, from the port of New-York, for twenty-four business days last month, and twenty-four business days, this month:

Table comparing LAST MONTH and THIS MONTH for Flour, Wheat, Corn, and Rye exports.

CATTLE MARKET.—The receipts of Beef Cattle for four weeks ending May 20, were 12,266, or 761 less than during the preceding four weeks. Receipts for the week ending April 29, 3,417; May 6, 2,948; 13, 3,158; 20, 2,743. Prices varied as follows; April 29, 1c. decline; May 6, 1c. decline; 13th, 1/2c. decline, May 20th, 1 1/2c. @ 1 1/2c. advance; making a total advance for the month of 1c. Wednesday May 20th, prices ranged: Premium cattle 1 1/4c. @ 1 1/2c.; First quality, 1 1/4c. @ 1 1/4c.; Medium quality, 1 1/4c. @ 1 1/4c.; Poor quality, 1 1/4c. @ 1 1/4c.; Poorest quality, 1 1/4c. @ 1 1/4c. General selling price, 1 1/4c. @ 1 1/4c. Average of all sales 1 1/4c. @ 1 1/4c. These prices are higher than have been obtained in two if not in twelve years past; and, as there is a scarcity of cattle in the country prices must rule high during the season.

Receipts of Sheep and Lambs for the four weeks ending on the 20th were 15,783, giving an increase of 1,667 over the same period of last month. Prices now range at 1 1/2c. @ 1 1/2c. for the dressed carcasses, or almost 6 1/2c. @ 8c. for sheep with wool on, and 11c. @ 13c. dressed, or 5 1/2c. @ 7c. for live weight, for shorn animals. Lambs are yet scarce, selling at prices equal to 18c. @ 25c. for the meat.

THE WEATHER thus far, during the present month, excepting one week commencing with the 6th, has been more like April than May. Cold and rain have been the chief elements of the weather. As late as the 19th snow fell in the central part of New-York, and the cold rain here was interspersed with snowflakes. The Spring is very backward, and much seed now in, must decay through excessive moisture and cold. Our condensed weather notes read: April 24, rain; 25, and 26, clear and warm; 27, rain; 28, 29 and 30, clear. May 1, clear and fine; 2, heavy rain; 3, foggy; 4 and 5 heavy rain; 6 to 10 clear, fine and warm; 11 and 12, clear but cooler; 13, warm.—Plum, Peach and Cherry trees in bloom; 14 and 15, rainy; 16, rain A. M., clear P. M.; 17, clear and cool, with frost, 18, cool and cloudy; 19 and 20, cold North-East rain storm—a little snow here, and considerable at the North, 21; cloudy, with rain A. M., clear P. M. Ground full of water; 22, clear and warm.

What is the Postage on this Paper?

We say 1 1/2 cents per quarter, or 6 cents a year and in proof, on the last page of the January number (bottom of middle column) we published the decision of the Post Office Department at Washington. But still we have complaint after complaint from subscribers that some Post Masters, who are "wise above what is written," still continue to charge 12 to 25 cents a year. We now request every subscriber charged over 6 cents a year if, paying postage in advance, to send us the particulars and we will at once refer each case to the Post Master General. This applies to every part of the United States and Territories. All papers going beyond the United States boundaries are regularly pre-paid by us at the N. Y. Post Office.

When this Number is Mailed.

The first copies of this (June) Number will be mailed to the most distant subscribers on Monday, May 25. The whole edition will be mailed on Monday, Tuesday and Wednesday, May 25, 26, 27—those going the greatest distance being sent off first. All further delays must be charged to the U. S. Post-Office Department.

Copies Lost by Mail

Are always supplied without charge.

Personal Letters, or those for the Editor only should be marked Private. Persons forwarding money by mail may consider the arrival of the paper an acknowledgment of the receipt of the money.

Contents for June, 1857.

Table listing various articles and their page numbers, including Bees-Apiary in June, Book Notices, Horticulture, and various agricultural topics.

American Agriculturist.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; IN-DOOR and OUT DOOR work around the DWELLING; care of DOMESTIC ANIMALS, &c. &c.

The matter of each number will be prepared with reference to the month in which it is dated, and will be promptly and regularly mailed at least one day before the beginning of the month.

A full CALENDAR OF OPERATIONS for the season is given every month.

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All business and other communications should be addressed to the Editor and Proprietor, ORANGE JUDD, No. 191 Water-st., New-York.

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Designed to improve all Classes interested in Soil Culture.

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ORANGE JUDD, A. M., }
EDITOR AND PROPRIETOR.

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NEW-YORK, JULY, 1857.

[NEW SERIES—No. 126.

Business Office at No. 191 Water-st.
For Contents, Terms, &c. see page 168.
Notes to Correspondents, pages 164-5.
For Business Notices, see page 165.
For Advertisements, see pages 167.

WORK FOR THE MONTH.

"Nor must we pass untold, what arms they wield
Who labor tillage, and the furrowed field;
The crooked plow, the share, the towering height
Of wagons, and the carts unwieldy weight;
The sled, the tumbrel, hurdles, and the flail,
The fair of Bacchus with the flying sail.
These all must be prepared, if plowmen hope,
The promised blessing of a bounteous crop."

What a change has come over the art of tillage since Virgil sung his Georgics, and described the implements of Roman husbandry, and their various uses! One can hardly realize it, until he puts the drawings of the ancient plow beside the modern one, in all its varieties, adapted to every kind of soil, to every kind of location, and every crop. It is profitable to look back, at times, and to see what progress has been made in the cultivation of the farm crops, and what great improvements science has brought to his aid. Virgil, in describing the plow, gives this advice to the farmer:

"Young elms, with early force in cosses bow,
Fit for the figure of the crooked plow,
Of eight feet long a fastened beam prepare,
On either side the head produce an ear,
And sink a socket for the shining share.
Of beech, the plow tail and the bending yoke;
Or softer linden hardened in the smoke."

Such was the plowing gear of the ancients, simply a natural growth of wood fashioned by the farmer himself. The shining share was but a blunt piece of iron fastened to the crooked plow beam, and not doing its work so well as a single tooth of a modern cultivator. And yet this rude plow, scratching but few inches in depth, was hardly improved until the present century. Indeed, there was little division of the farmer's labor until a quite recent period. The poet describes a state of agriculture among the Romans, in which the farmer is his own mechanic, shaping his plow beam by anticipating his wants, and compelling the young sapling to grow into a shape suitable for a plow beam. The present generation can remember that there was almost as little division of labor upon our own farms. The farmer made his own plow beams, fashioned the handles, and was only dependant upon the blacksmith for a plow share without a mold-board, for the clevis, and the irons of the yoke. There were no agricultural warehouses, stored with all the tools that the farmer wished to use. He made his own ox-yokes, and bows, and pins, and usually,

his own sleds and carts, with the exception of the wheels. Farmers' tools were only made to order, and these of the rudest kind.

Now, labor has been so far divided, that a farmer can find ready-made nearly every tool he wants to use upon his soil, and a great variety of tools that were unthought of fifty years ago. The plow is no longer a rude implement. It is the combined result of the highest scientific knowledge and practical skill. Years of patient study and investigation of the laws of mechanical force, have been spent upon it, so that it produces its results with the least expenditure of animal strength. It is so constructed that it is easily guided, and the holder can plow narrow or wide, deep or shallow, as suits his convenience. We have plows for various kinds of work,—for the sward and for the stubble, for the surface and for the sub-soil, for the side-hill and for the plain, those turning a single furrow and those turning two.

In looking at the changes which have come over our agriculture, none is more striking than that in the farmer himself. He looks at his business from a new stand-point. It is no longer a stereotyped routine, in which man uses as little mind as the dumb cattle he drives over his fields. Among the more intelligent class of cultivators, husbandry is no longer considered a perfected art. Its methods are not so well-established that it is deemed a waste of time and labor to try anything new. It is a tentative art, in which every man feels that he has much to learn, and experiments in new tools, crops, fertilizers, and modes of tillage are everywhere the order of the day. The practice of those who apply mind to husbandry, is gradually influencing that very large class who apply only muscle. They see the results of deep plowing, and high manuring, and, to some extent, imitate their thinking neighbors. This experimenting is everywhere practicable among the readers of our agricultural journals. This change in the farmer himself, we regard as the most important of all that has been done in agricultural reform. In it lies the germ of all future improvement, a work that is certain to go forward until the scientific principles of cultivation are everywhere recognized and practiced.

Deeper tillage is another prominent feature of modern husbandry. The plow has been constructed to meet this want of the soil. It has been discovered that the roots of cultivated crops take a much wider and deeper range than was formerly suspected. The soil is loosened and fertilized to meet

this necessity of the crops. Deep plowing is found to be a safeguard against the drouth of Summer. When the surface roots are parched, and no longer supply moisture, the bottom roots still find an abundant supply in the well-ventilated subsoil. All thinking farmers plow several inches deeper than they did twenty years ago.

The crops, too, that are cultivated, have felt the influence of this change. What a great variety of roots, grains, grasses, and fruits have been originated and brought into notice within the last twenty years. We have new kinds of corn, potatoes, oats, rye, wheat, apples, pears, and other fruits. Even the National Government has become interested in the distribution of seeds, and the results of the improvements in European agriculture, are now put within the reach of multitudes of our best cultivators in all parts of the country. A single publisher has even gone beyond the government in the number of packages of seeds distributed, if not in the total amount. So wide is the distribution of these valuable seeds, that it is exceedingly difficult for designing men to get control of anything valuable for the purpose of speculation. There is much less chance than formerly, for speculators to take advantage of the ignorance of farmers. A Rohan or Multicaulis or Sugar Cane fever is rendered impossible. The Dioscorea bubble bursts in its first season, and, "like the baseless fabric of a vision," leaves not a wreck of the brilliant hopes of its originator behind.

The stock upon the farms is as much improved as the crops. So strong has been the conviction of the necessity of full-blooded animals, to give a permanent character to our stock, that men of capital have visited the best breeders in England, and bought largely of their choicest animals, without regard to price. Stock breeding has fallen into competent hands, so that now we probably have as fine Durhams, Devons, and Alderneys, as can be found in the father land; while we are not far behind in our horses, sheep, and swine. A passion for fine stock is rapidly spreading, and as agriculture becomes more skillfully conducted, and better rewarded, farmers will have the means to gratify this laudable passion. Indeed, already the Durham and Devon stock is widely scattered, and more or less of full-blooded animals and grades may be found in almost every county where an Agricultural Society has been established.

Another sign of progress is, the increased attention paid to the fertilizing of the soil. It is felt, as never before, that this is the one

thing needful for the farm. With fertile acres, the tiller of the soil is master of his position, and can do what he likes. The machine will work, and turn out goods to order, and enrich its owner. Without it, the soil is his master, and he is but a slave. The more of it he owns the poorer he is. It is but a millstone, to drag him down into the depths of poverty. The poor cultivation of his poor acres, makes him a poor man. Fertility has become a prime necessity, and better methods are resorted to, to save what falls from the stock, and to increase these by all the vegetable and animal wastes of the farm. Barn-cellars and sheds, are now the adjuncts of most new barns, and are often affixed to old ones. The stock are stabled, not to shelter them and save fodder, but to save manure. The mines of the muck swamp are opened, and freely used to the joy of many a sandy plain and gravelly knoll. Old wastes and pastures are not only reclaimed, but are made more fertile and productive than they ever were in their best days. Art has done what it always ought to do, improved upon nature.

These are some of the things that cheer us in our work as journalists, the co-laborers of the tillers of the soil. It is good to know that this paper, as it visits the lumberman in the pine woods of Maine, the fruit growers, and the gardeners in the vicinity of the Metropolis, the plantations of the South, and the prairie farms of the West, is fulfilling its mission. The seed it has sown in years gone by, is springing up, and bearing its appropriate fruits. The tiller of the soil works more skillfully, and finds a better reward for his labor.

And now what word of counsel shall we offer, as we approach this fervid month, when work is a burden, and to sit still and see Nature work is the boon we covet.

"The plants around

Feel the too potent fervors; the tall maize
Rolls up its long green leaves; the clover droops
Its tender foliage, and declines its blooms.
But far in the fierce sunshine towereth hills
With all their growth of woods, silent and stern,
As if the scorching heat and dazzling light,
Were but an element they loved."

But the husbandman must needs pursue his labors even in this noontide heat of the season. The grain and hay harvests are to be gathered, and there is strong temptation, under the pressure, to overtask the strength. But this should not be allowed, and, thanks to the inventive genius of our countrymen, the temptation will soon be removed.

THE MOWERS AND REAPERS,

moved by horse power, are rapidly multiplying, and every year gains new triumphs. See how majestically they sweep down the waving grain, and the tall grass! Why should you still put your strength against that of your horse, and swelter in the noon-day sun? Has not the time come, on this Fourth of July, when you may celebrate your independence of the scythe and the cradle, and henceforth tax horse-flesh to cut your hay and grain?

PROVIDE HAY CAPS.

These are not only a safeguard against wet hay, but against over-taxing your

strength. There is then no need of haste in raking or pitching hay. Put up in cock, the hay will wait in safety for the sunshine, to go into the barn.

DO NOT MAKE YOUR HAY TOO MUCH.

Many err in this respect, and waste the sweetness of the grass upon the desert air. Clover is particularly damaged by too much sun. Cut it in the morning, and let it lie in the swath until the middle of the afternoon. Then turn it upside down. The next afternoon gather it, with a three-tine fork, into cocks, and let it remain two nights more, when it will be well cured, without losing the leaves from the stem. Clover, cured in this way, is more nutritious, and better relished by cattle. Read, however, the special chapter on "Hay Caps."

DO NOT FORGET TILLAGE

in the midst of the hay harvest. The corn and potato crops are very much increased by frequent hoeings. Improve cloudy days to run the cultivator between the rows, until the corn gets too large to admit the horse. The fourth and fifth hoeings of the corn-field pay as well as the second and third. You will have extra grain to pay for the labor.

SOWING TURNIPS.

You remember the old adage—

"the 25th of July
Sow turnips wet or dry."

We should omit the dry, and sow any wet spell, a little before or after. In moist seasons, turnips are a good crop, and are usually produced with less labor than most other roots. Do not fail to sow the seed of the flat or cow-horn turnip, at the last hoeing among the corn. The shade of the corn will give them a good start, and if the corn be cut up by the middle of September, you will have roots cheaper than by any other process.

ABSORBENTS FOR PUTRID SUBSTANCES.

At this season of the year, when various animal and vegetable substances, in a state of decomposition, accumulate about one's premises, it is important to have some means at hand to deodorize them. For sink-drains, cess-pools, and the like, lime answers a good purpose. We, however, prefer powdered charcoal on some accounts, especially if it is desired to absorb and preserve the fertilizing properties of the offensive substances. If the soap-suds, dish-water, chamber-slops, and all the refuse matters commonly thrown out the back-door, could be carried into a vat and saved, the manure so made annually, would be of great value. To absorb the liquids, and prevent unpleasant smells, the vat should have at the bottom a layer of peat or dried turf; after this has become well saturated, a coating of pulverized charcoal should be added. In a short time, another layer of peat should be thrown in. Plaster may also be added, and if this does not absorb all the odors, the compost should receive an occasional sprinkling of chloride of lime, and as a last resort, lime itself.

Keep all kinds of plants under glass, as close as possible to the light.

CALENDAR OF OPERATIONS.

JULY, 1857.

[We note down a summary of various operations, many of them very common ones, it is true, but a simple catalogue like this will often suggest a piece of work that would otherwise be forgotten. The Calendar is adapted to the latitudes of 40° to 43°. A little allowance must be made for each degree of latitude—later north—earlier south. This table will be made out anew every month, and adapted to the season of each year.

EXPLANATIONS.—The letters, f. m. l., refer to *first, middle, and last* of the month.
Doubling the letters thus: ff., mm., or ll., gives emphasis to the particular period indicated.]

FARM.

We have now come to one of the most hurrying months of the year. Not only are our labors heavy, but the hot weather is relaxing and depressing to our spirits and health. Caution, moderation and temperance in labor, food and drink, should be observed, while engaged in the hay and harvest fields. We have elsewhere recommended horse power to cut the hay and grain on large farms, where practicable. One man with a good machine and a pair of horses, can cut more than six men during the same time, to say nothing of the spreading. Scythes and cradles will not, however, wholly yield to machines for a few years to come. Although the chief business will be harvesting hay and grain, there are other things which need looking after upon the farm, foremost among which is

Buckwheat, to be sown early this month, which is the best time to ensure entire safety from frost. See article on another page.

Bark for Tanners will continue to "run," and may be peeled at any leisure time during the early part of the month. Cord or pile up former peelings now dry.

Bees—Watch late swarms, and in most cases return those coming out this month to the parent stock. Read "Apiary" and "Wonders of the Bee-Hive" in the present number.

Butter and Cheese—Read chapters on another page.
Cabbages for Winter may be planted in the field at almost any time during the month, but better by the middle. Put them out among early potatoes, and after the first crop of peas. Hoe former plantings, and make good any failures.

Corn.—Sow or drill ff. for soiling. Plow or use the horse hoe among early plantings ff. See work for the month.

Cotton at the South will receive its last working previous to harvest.

Fences—Have an eye to them, before cattle discover the "weak points."

Haying is the work of this month at the North. See several articles on the subject in this number.

Hay Caps—Provide ff. if not on hand. See article.

Hoeing should not be neglected, although other work will take the precedence. Hoes may be plied during cloudy days, and while the mowing machine is at work in the morning. Remember that weeds will still start up and ripen seed if not "nipt" the bud."

Hogs—Keep from streets, roads and yards. They may properly have the range of an orchard or small pasture. Where shut up, give grass and weeds, keeping their pens supplied with muck, turf, &c., and let them help pay their way by making manure.

Manures—Continue to increase these not only in the hog pens, but in cow yards and compost heaps, by adding muck or swamp mud with a little plaster. Scrape the droppings in the stalls and cow-yards each morning and compost with muck *under cover*. Keep the yards and heaps free from weeds going to seed. Wet down, or fork over the pile, mixing plenty of muck if there is fire-fang.

Millet—Sow ff. m. for soiling.

Oats—Cut ll. if ripe. Bind and house or stack without their getting wet, if possible. The straw will make valuable fodder. If left in the field long, the "hay caps" will be highly useful in preserving the straw.

Pastures—Change from cattle to sheep and horses often. See that they are not fed too close.

Poultry—Give them a yard if not a wider range, as they will not do much mischief this month, except among the smaller fruits of the garden, and in the grain fields, from which they should be excluded. Read article upon varieties on another page.

Potatoes—Keep free from weeds. Early plantings will be ready for use m. l., and the ground may be sown to turnips or planted with cabbages.

Rye—Cut f. m., or as ripe.

Sheep—Guard from dogs by pasturing with one or two horned cattle, which will often keep dogs from the lot. Better, however, put a small bell upon several animals, the sheep killing dogs prefer to take their meals in quiet, and fear the call of bells. Supply sheep with salt once a week.

Sugar Cane—Seed of the Chinese may still be sown ff. for forage. Cultivate and hoe former plantings.

Tobacco—Top or nip off the upper growth. Keep the ground light and free from weeds.

Turnips—Sow Ruta-bagas and Swedes f. m. l. Flat or Cow-Horn varieties may be sown at any time during the month, and especially among corn at the last hoeing. Read directions in another place, and put in a good supply for Fall and Winter.

Wheat—Cut m. l., or as soon as the kernel has hardened from the dough state. Pick out all foul stuff from the seed patch. Read article on early cutting.

ORCHARD AND NURSERY.

The principal business of the Orchardist during this month will be pruning, thinning and gathering early fruit. Cherries, Peaches and the earlier Apples and Pears, will furnish his table with abundance of delicious fruit, as the Season promises a plentiful yield. The Nurseryman will find sufficient to keep him busy between plowing among trees, pruning and

Budding Seedlings, the season for which is now at hand in this latitude. The different kinds of fruit usually require budding in the following order. Plums, Cherries, Apricots, Pears, Apples, Quinces, Nectarines and Peaches, although difference of soil and situation will sometimes hasten one and retard the other. Read directions for budding on page 161 of present number.

Caterpillars—Destroy the second brood as recommended last month on page 135. Keep small torches burning near the ground ff. to entice and destroy the moths.

Cherries—Early varieties are already ripe and the crop will extend through the month. Use care in gathering not to break the limbs or start the bark under heavy boots.

Fallen Fruit—Gather all kinds and cook to destroy the insects, unless swine or other animals are allowed the range of fruit grounds.

Grafts—Loosen any bandages which are cutting into the bark, and rub off suckers.

Hoeing—Continue in Nursery grounds, and keep grass and weeds from growing about standards in the Orchard.

Insects—Destroy ff. according to the directions of last month, keeping the torches there recommended at a distance from the foliage.

Layering and Inarching may be commenced this month. Full directions will be given in the next number.

Manure—Apply in liquid or other form to those trees which are loaded with fruit.

Pears—Trim lightly, retaining side spurs, and bud m. l. **Plums**—Gather fallen fruit and continue to war against the curculio. Bud ff. m. Round off stalks budded last season.

Pruning—Attend to m. ll. For full directions see page 160.

Quince Trees—Prune and bud with Pears, using only those kinds known to succeed upon the quince stock. Insert the buds as near the root as possible.

Stones or Pits—Collect from fruits as they ripen, and plant at once, or put in boxes of earth. If thoroughly dried they will not vegetate with certainty.

Thinning fruit will be necessary on young trees. It is not best to allow trees planted in the Spring to perfect any fruit the present season. The fruit of large trees which have set a heavy crop should be thinned if good size is desired.

Vines—Prune and layer those under cultivation in the Nursery.

KITCHEN AND FRUIT GARDEN.

Between harvesting and marketing the early crops, sowing for late, weeding, thinning and hoeing, the gardener will find sufficient employment for the month. It is not too late to plant many of the vegetables of the kitchen garden. Some of them will succeed better now than planted much earlier, and as the soil is in good condition for the vegetation of seeds, no ground should remain unoccupied through fear that it is too late to plant. A wet Spring is often followed by a dry Summer and the present is quite likely to be such. Frequent and deep stirring of the soil is the best means of counteracting drouth. Dews, also, have more beneficial effects upon a well pulverized, than upon a compact soil.

Asparagus—Omit cutting, but keep down weeds.

Beans—Kidney dwarfs and six week beans may still be planted ff. See that running varieties are provided with poles.

Beets—Sow ff. for winter crop. Hoe early crops f. m. l. **Cabbages**—Plant ff. especially between rows of early potatoes.

Carrots may still be sown ff. Thin, weed and hoe f. m. **Celery**—Plant out full crop in trenches ff. m. watering and shading from the hot sun.

Corn—Plant sweet ff. for late use. Hoe early plantings. **Cress**—Sow ff. m. for succession.

Cucumbers—Plant ff. m. for pickles.

Egg-Plants—May still be planted ff., shading from the sun and watering if the weather is dry.

Fruit—Thin and support over-loaded or weak branches and vines.

Gooseberries—Keep the soil loose and well mulched. Dust with sulphur if affected with mildew.

Grapes—Continue to rub off superfluous shoots, and nip back fruit bearing branches. Destroy caterpillars by hand picking. Read chapter in present number.

Herbs—Many of these will require gathering this month. Cut when in flower, dry thoroughly, and pack in tin cans or dry boxes.

Hoe—Counteract the drouth, which often occurs during this month, by thoroughly stirring the soil and hoeing up the weeds which would otherwise appropriate moisture.

Insects—Continue to use night torches and open bottles of liquid to destroy any that are left.

Lettuce—Sow f. m. l. Thin and use former plantings. **Marjoram**—Gather and dry m. l.

Melons—Plant ff. for mangoes. **Onions**—Sow m. ll. for sets to plant next spring.

Peas—Sow f. m. l. for succession. Bush or string former sowings. Clear grounds which have perfected their crop and replant with peas or turnips.

Potatoes—Hoe and weed. Early plantings will come off m. ll. and the ground may be used for cabbages or turnips. Lift vines of sweet varieties unless seed tubers are wanted.

Radishes—Sow f. m. l. among other crops. **Salsify**—Hoe and thin.

Seeds—Gather as ripe, and save with care. Label and date them that their age may be known at any future period.

Spinach—Sow ff. m. for Autumn crops. Use former sowings, saving sufficient for seed.

Squashes—Early varieties may still be sown. Protect from bugs with flour and black pepper, or cover with cotton. See another remedy in present number.

Strawberries—Clip runners if hill culture is desired. Keep grounds free from weeds.

Tomatoes—Plant out f. m. for late Stake or bush early ones.

Transplant cabbages, tomatoes, eggplants, &c., during damp weather if possible. See directions on page 162.

Turnips—Sow Ruta Bagas and Swedes ff. m. Flat and Cow horn varieties may be put in m. l. Sow wood ashes or dry lime on them as soon as up to protect from the garden flea. Read chapter on another page.

Water—Give plants newly set out. **Weeds**—Collect and carry to the hog or manure heap.

Allow none to sow their seeds for a future crop.

FLOWER GARDEN AND LAWN.

The flower borders should present an attractive appearance during the entire month. In addition to many of the perennials still in bloom, a succession of annuals will now supply the places of early flowering bulbs and herbaceous plants whose flower stalks have been removed. Pillar and other roses are now in profuse flower, while beneath them flourish countless varieties of plants in full bloom, conspicuous among which are Delphiniums, Dianthus, Campanulas, Phlox, Digitalis, Petunias, Verbenas, Pelargoniums, &c. Among the things to be attended to during the month is the sowing of

Annuals, a few of which may be put in ff. Weed and transplant those previously sown.

Box Edging—Clip ff. if neglected last month. **Bulbs**—Many of the early flowering may now be lifted and dried. They should not be removed before the foliage has withered.

Carnations, Pinks, Picotees and Pansies—Continue to layer ff. m. Those which are established may be removed l. m.

Dahlias, if previously started in pots or otherwise may still be planted ff. Stake and prune as they advance in growth.

Flower Stalks—Cut away as fast as they complete their bloom, both to free the grounds from unsightly objects, and allow room for annuals planted near them.

Geraniums—Make and plant cuttings of f. m. **Gladiolus**—Stake flower stalks ff.

Gravel—Hoe, weed and rake old walks, renewing where necessary.

Hedges—Clip with shears ff. slashing any open spaces. **Hoe and Weed** ff. m. ll.

Insects—Destroy as last month. **Lawns and Grass Edging**—Mow and shear f. m. l.

Mignonette may be sown ff. **Potted plants** from the houses will require the same treatment as last month. Water freely during dry weather, giving liquid manure occasionally.

Prune deciduous trees and shrubs f. m. l. **Roses** present a fine show at this season. Budding and layering should now be performed. Continue to use the whale oil soap mixture for the destruction of slugs and other insects, whenever they appear.

Seeds—Gather early ripening varieties and label with care.

Transplant annuals as per directions elsewhere. **Tulips**—See Bulbs.

Verbenas—Layer for late blooming and house plants.

Water—Give to pot and other plants as necessary, applying it at night.

Weeds should not be permitted to grow in grounds allotted to flowers.

GREEN AND HOT HOUSE.

These will be comparatively empty at this season, a large number of the plants having been carried to open grounds. Those remaining will require plenty of air which should be admitted mostly through the top ventilators, else the current will produce a dry atmosphere.

Azalias—Should have sufficient air to mature the new growth.

Cactuses—Water freely. **Camellias**—Shift to larger pots ff. m.

Cuttings of herbaceous and succulent plants—Make ff. m.

German Stocks—Plant ff. for winter blooming. **Grapes**—See full directions on page 159 of present number.

Insects—Destroy by hand picking and fumigations inside, and syringings outside of the house.

Layer or Inarch f. m., plants which will not strike readily.

Oranges and Lemons—Bud ff. m. Thin fruit or remove blossom buds when enough has set.

Orchids—Keep dry and cool. **Pelargoniums**—Continue to make cuttings of, heading in those done flowering.

Potting of cuttings, layers, &c.—Continue ff. **Prune plants** done blooming, cutting back those designed for winter flowering.

Seeds—Gather as they ripen and label for future use. **Seedlings**—Transplant or pot off as soon as they are of sufficient size. Shifting to larger pots may be done during the month. This is the most appropriate season for the change.

Syringe freely to dislodge insects and maintain a humid atmosphere.

Tie up plants to prevent their being injured by the wind, and screen them from strong currents.

Turn plants frequently to prevent a crooked growth. **Water**—Give to plants both in and out of houses, selecting the evening as the best time. During heavy rains those plants inside should be shielded by closing the upper sash or turning the pots upon their side.

THE APIARY.

BY M. QUINEV.

In spite of all endeavors to the contrary, there will probably be some old stocks without queens at the end of the swarming season. The means of providing other queens for stock, will soon be past—usually by the middle of the month—I gave the directions in June. A queenless stock at this season, will speedily be destroyed by the worms, unless the colony is very strong. Watch them as they become weak, which will be in a few weeks, or months at most; they will continue their labor as others. But if weak, they should be broken up at once, and the contents saved; the bees united with some other weak stock or swarm having a queen; or, what is frequently better, break up the weak one having the queen and put the bees with the queenless one. This will not only save the honey and wax, but prevent the breeding of thousands of moths to infect other stocks.

The moth is particularly active this month; it will be likely to trouble all small swarms, as well as old stocks that have swarmed too much; these with proper assistance, can be often saved. In sections where diseased or foul brood, has appeared, the utmost vigilance is needed to prevent its spreading. All old stocks can be examined three weeks after the first swarm, better than any other time, as the brood left by the old queen will be nearly if not all matured in that time. To do it, blow some tobacco smoke under the hive, turn it over and look among the brood combs for sealed cells; if any are found, open a few with the point of a knife. When healthy they have the shape of the mature bee, but if diseased, are black and putrid. A dozen such should condemn a stock at once. Drive the bees into an empty hive to begin anew—no other course has been found successful.

To prevent a waste of young broods.—If any combs need pruning on account of age, it should be done about three weeks after the first swarm leaves the hive. To do it sooner would cause a waste of young broods which ought to be preserved. It should be remembered, however, that pruning is very seldom called for. Brood combs if not diseased, will do good service eight or ten years, even though they may grow black.

Examine the boxes on the hive, every few days. Put empty ones in the place of full ones, as fast as finished—do not compel the bees to be idle for want of room a single day during a yield of honey.

To preserve the honey till cold weather, it must be secured from the mice, ants, &c., and kept in a dry place at any rate, and cool if possible. Such boxes of honey, must be examined every few days, to see if any moth-worms hatch out—should any appear, they may be destroyed with the fumes of sulphur.

FARM SURROUNDINGS.

NUMBER V.—POULTRY.

Having for the present disposed of the quadrupeds, although we may touch on another variety or two hereafter, we will now look at the poultry. In proportion to the comforts and conveniences—luxuries even—that they yield to the household, no living thing that you keep gives more satisfaction, or pays better, *when properly accommodated*, than the poultry department. To the eye, when tastefully selected, they are objects of beauty. Their domestic habits are studies of interest, and their whole course of life, to an appreciating mind, is a pleasant subject of observation. Occasional annoyances will come from some untoward cause, or another, but on the whole no country place can be complete in its decoration, or its inhabitants without them. We shall, therefore, proceed to discuss them in their comparative order of utility and interest.

First, then, is the chicken, or barn-door fowl. In the selection of these we are not fastidious as to breed. All the different breeds have their virtues, and some their vices. We are not a chicken fancier, nor a chicken trader, have no wares of the kind to vend, and therefore, with many years of experience in different varieties, think ourselves competent to judge somewhat of their several merits. We have passed through the recent years of a raging chicken fever without contagion, visited all the varieties of patients and the type of their maladies, looked into their nurseries and hospitals, made our own observations, came out unscathed, and learned—something. Indeed, we have attended sundry assemblages of consultation on severe cases, prescribed, as an amateur, for relief, and administered advice in some paroxysms of extremity. In short, we profess to know somewhat about poultry. Let us look then, at the chickens as we find them around us.

The large Asiatic fowl in its several cognomens, not necessary here to enumerate, we class as of one general *breed*. Their *varieties* are many, but they have one general character in common, of great size, late maturity, thinly feathered, rather unfitted in constitution for a cold climate, and, without extra care, an unfitness for common, every day uses. They comprise specimens of the very best and the very worst of their kind. We have seen them large, grand and beautiful in size, figure, proportion, and color—personating, in fact, the *beau-ideal* of a majestic fowl. Again we have seen them as devoid of grace and comeliness as a sand-hill crane, and not a whit more useful to run about the premises—a nuisance anywhere. But, as we shall not dispute about tastes, we will not further discuss them. From these, and their admixture with the common dunghill fowl, have grown several other varieties which their admirers have dignified with names, and called them “breeds,” meaning nothing, in reality, but mongrels and crosses, and they of varied utility.

Next to these in size, but holding no parallel with them otherwise, is the English

Dorking—the most perfectly formed, and the *very best* fleshed fowl we know. But from a long course of nice breeding in the mild climate of Southern Britain, they are thinly feathered, and not robust enough to withstand our harsh extremes of season. No bird of the farm yields such a deep, well fleshed breast, or so savory and well-meated a side-bone, nor a better egg; but they require snug housing, and extra attention to keep them up to the mark in breeding. They are more subject to the roup—a hateful disease—than any other, yet, when well cared for, pay for their trouble. In plumage they are beautiful, and in all otherwise, a *perfect* fowl to look upon.

A third variety is the game fowl, old as Egypt, and in all ages downward an object of barbarian pastime and cruel usage, and, like the equally ferocious bull-dog, instinctively and of choice, contributing to the brutal tastes and passions of their masters. In grace, plumage and action, they are equal to any others, and superior to most; and well-fleshed, prolific and hardy. They know no fear, and avoid no danger. Yet they are not a pleasant bird to have about you. They quarrel with every other fowl upon the place, and for want of these they quarrel with each other, cocks and hens alike. An occasional cross of the game upon other deficient varieties may give them stamina and hardihood, but otherwise we could not keep them. Thus, it will be seen, we are no abettor of the cock-pit.

We have named three prominent breeds; and there are many others which we might name, as the Black Spanish, fancy-bred, delicate and beautiful, but unprofitable; the Creole, or Bolton Grey, a compact, fine, small prolific bird; the Poland, with an enormous white tuft upon the head to contrast with a shining black body, tender to rear, prolific in eggs, and inferior in flesh; the beautiful small fowl of the East India Islands, called Sumatra game, of the brightest plumage and most graceful form, yet too tender and delicate for our climate without extraordinary protection. There are others, also, which are to be found in the poultry books, and which may please your tastes. But some are mere humbugs, got up by the chicken fanciers to get your money, and worthless as an economical housekeeping hen, or even a thing of well-regulated fancy. If you, like ourself, have gone through the entire calendar of chicken variety, you have probably by this time made up your mind what to keep in that line, and need none of our advice. But, if not, and only want a good every day hen, one that will give you an abundance of eggs, will breed you a brood of hardy chickens, early fit for the table, and well-fleshed always, we advise you to mark our description of what a nearly perfect chicken is, and then get more or less of them as soon as you can, regardless of what variety they are called, and commence your poultry keeping.

A well conditioned barn-door fowl should have a small head, with either a single or double comb of good size, a short, strong beak, a quick facile eye, without any feath-

ers by way of tuft. The neck should be short, light, and well feathered. The body deep, long and broad, full-breasted and compact, of course, and the more brilliant the plumage, of whatever color it may be, the better, as it is a sign of hardihood. The tail should be of moderate length, and full in feather. The legs short and muscular, and their hue flesh color or yellow. We dislike blue or black legs. They are signs of hardihood, but of bad looking flesh. There is a want of delicacy about it with such legs. The cock should have a corresponding figure, brilliant plumage, and a proud and portly bearing. He should not be a coward, nor yet a braggart, but a manly protector to his family. In selecting young stock birds always keep the *best*, discarding everything tending to effeminacy in either sex, and if they decline in stamina, introduce a new cock into the flock, of such quality as will continue, if not improve their good qualities.

There is still another interesting family of the chicken department, especially if there be children in the house, that should not be omitted. It is the Bantam. We do not mean the little fancy thing called the Sebrights or Javas, with their buff feathers, black edged, or coal black plumage, for they are hard to obtain and troublesome to keep up to the mark in fancy requirement. Still, if you like these, and can breed them in their purity, they are well worth the pains you take for them; but we mean the beautiful little, sociable, feather-legged, common white Bantam, which inhabit the tenements of the washer-woman, and laboring people of our large cities,—New-York, Philadelphia and Baltimore. They are the most domestic little house-keeping creatures imaginable. They love the companionship of children, as well as the puppy, or the kitten; will follow them all over the house, if they are permitted; will make their nests in the cupboard, or coal scuttle, the cradle or rocking-chair—your hat even, if you lay it down right side up—and cackle as triumphantly over their little egg as the proudest matron of the farm-yard. Through twenty years of our child-rearing experience, with their little joys, and their transient sorrows, the children kept, and loved, and enjoyed their Bantams, always cherished objects of their care and solicitude. If you have children, then, indulge them with the Bantams equally with the cosset lamb and the pony. You can do this even in restricted premises where you can keep neither of the others. How the little Bantam cocks do strut, and flap their wings, and crow, about once a minute all day long.

Further than what is above written we need not discourse in the chicken department. For all the manipulations touching their care and education, we commend you to Bement's Poultry Book, a new and improved edition, of which the Harpers' have lately published. He will describe to you all the breeds which are worth knowing about, and some, also, the less of which you know the better; and as the author is a long-time friend of ours, and understands the business of poultry in all its departments, we

name him as sound authority, untainted with the trickery of the trade, and in the study of whose pages you will come out "a wiser, if not a better man." We shall talk of other poultry matters hereafter.

MECHANICAL PREPARATION OF THE SOIL.

NO. IV—DRAINING.

[Continued from page 126.]

Owing to the great diversity of arrangements found, in both surface and sub-soils, as illustrated on page 126, it will be readily seen that no arbitrary or general rules can be given for deciding whether any particular soil needs draining or not. This can only be ascertained by a *special examination in every case*, and this examination must usually be made by the cultivator. Because the surface soil *appears* to be dry, it should not be at once concluded that it may not be *profitably* drained. The tests, given in the middle column, page 125, should be applied, keeping in mind the principles stated on page 101, and also on pages 124-5.

Let us examine more particularly some of these general arrangements of soils.

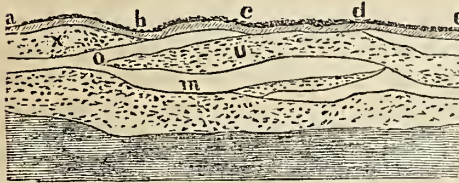


Fig. 1.

In this figure, *x* and *u* represent loamy or gravelly soils, supposed to be porous enough to allow water to settle rapidly away. Yet even here the clay beds, *o* and *m*, may be so near the surface as to prevent the escape of the water except by evaporation into the air. In such a case, it is evident that but a few inches of the surface will be dry. Sinking a hole three or four feet, and finding it free from water two or three days after a soaking shower, will furnish the only proof that there is sufficient *natural* drainage. We wish it kept in mind that the sections of soil represented in all the cuts may be only a few feet or rods in extent, and they may *each* extend several miles. Every field upon your farm may have half a dozen alternations of wet and dry soil, or your whole domain may perchance lie wholly upon *one* of these plots. If you dig a well, the chances are that in going down fifteen to thirty feet you will pass through half a dozen varieties of loam, clay and gravel. If in a level country, the different beds of soil will most likely lie horizontal, though this may not be the case, for it not unfrequently happens that a level surface is found upon just such an arrangement of sub-soils as that shown in fig. 1 or in fig. 5. If in a rolling, hilly, or mountainous region, though on a flat plateau, or in a valley, the probability is that the strata or layers of soil are anything but level or uniform. It may be stated, however, that there are very few flat or level sections of the country, in which large beds of clay are not found immediately below, or at most a few feet be-

low the surface, and when near the surface, they form an effectual barrier to the free descent of water. But the great majority of our farming lands are either *rolling*, or situated upon the sides of valleys or mountains.



Fig. 2.

In figure 2, for example, we may suppose the distance from *m* to *z* to be two, three, five, or ten miles, while the depth of the hollow or valley may be but a few hundred feet. If your farm chances to lie in the valley somewhere between *s* and *u*, you have an open subsoil through which the water may sink down and run off to the left, perhaps to reappear in springs or swamps many miles distant.

Here then, though in the lowest part of the valley you have comparatively dry land, while on either side of you, your neighbors located between *r* and *s*, and between *v* and *u*, are upon clay land from which the water must run over the surface until it finds a porous soil at *u* or *s*. The same will be the case with the farms located between *n* and *o*, and between *x* and *w*.

Now examine a farm located between *o* and *r*. The rain falling between *m* and *n* will sink down, leaving the surface dry, but it will be stopped by the clay bed between *n* and *o*, when it will ooze out at *n* (perhaps forming a spring at that point). It will gradually sink away from the surface, and the result will be that all through the season, the upper portion of the surface will be kept wet or moist, while lower down the middle portion will be dry, and then at the lower part near *r* the water having been stopped by the clay between *r* and *s* will run or ooze out at *r*, forming another wet spot, and the surface between *r* and *s*, and a little below *s*, will be wet and cold at all seasons.

These explanations show why it often happens that there is a succession of wet and dry farms one above the other, right upon a hill side. There are multitudes of just such instances all over the country. Though the cause may not have been known, every one must have observed that there is a difference in the fertility of adjacent farms upon the same general slope. Let it be remembered that in the cut we have magnified the inclination, and that the illustration holds good even when the distance between *m* and *s* is so great and the fall so gentle that it will hardly be noticed by the casual observer. All the illustrations will hold good if the descent from *m* to *s* be just enough to produce a gradual flow of water in the soil or in a running brook.

But suppose the descent be rapid, and the distance between *m* and *s* be so short that a single farm, or even a single field, cover the whole side of the valley, and there be but a few feet or rods between *m* and *o*, *o* and *r*, or *r* and *s*. In this case the same farm or

field will exhibit an alternation of wet and dry soils, and the portions between *n* and *o*, and between *r* and *s*, will need artificial drying or draining.

The same reasoning as the above holds good in examining the sides of a mountain, hill, or rolling surface, as illustrated in the following figure :

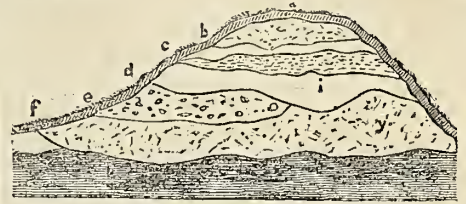


Fig. 3.

Here the upper layer may be a bed of clay, gravel or sand. If sand it will drain itself, but the water will be stopped by the clay bed between *b* and *c*, when it will run out and over the surface, and sink down at *c*, and perhaps settle off to the right and come out upon the right side. Between *c* and *d* the soil will be naturally wet; between *d* and *e* dry, except at the upper part, near *d*. Between *e* and *f* it may be wet or dry, especially near *f*, since the bed of clay shown just below *f*, and the rock *k*, may form a basin to hold the water when it will escape at *f*, in the form of a spring, or perhaps ooze out, producing a wet spot or swamp. As described above, under fig. 2, if the distance between *b* and *f* be great, there may be a succession of wet and dry farms, or parts of farms, or, if the distance be short, a single farm or field may embrace all the varieties of soil shown, and even many more alternations.

That these successive beds of clay, sand, gravel and loam, actually exist, must have been observed by most persons who have seen a well dug, or an excavation made for any purpose. We frequently dig into the side of a hillock to get at beds of sand for building purposes, and often find this, or even smooth washed gravel, above, or below, or between beds of clay. Let us examine the next figure :

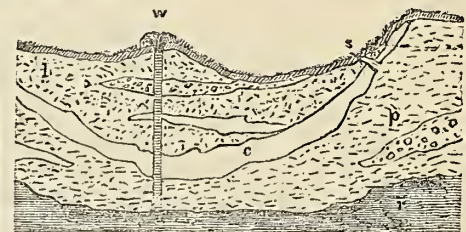


Fig. 4.

Here we have a gravelly or loamy soil, *l*, resting upon a clay basin, *c*, and below the clay another porous soil, *p*, which lies upon the rock, *r*. There are smaller beds of coarse gravel and of clay in each of the larger loam beds. The upper bed, *l*, may be of such depth and extent, and character, as to absorb most of the rain falling upon the surface, and return it gradually to the atmosphere. The bed, *p*, may be a water-bearing strata, extending far off to the right. The clay bed, *c*, will keep its water from ascending into *l*. If there chance to be a natural fissure or opening at *s*, through the clay, the water will perhaps flow through it, and produce a living

spring at that point, as there is always an unfailling supply of water in *p*.

Suppose now at *w* a deep shaft or well be sunk down through the clay bed into the water-bearing strata, *p*. It is evident that the pressure from the higher ground, on the right, will cause the water to rise up and overflow at *w*, even though the ground at that point be much more elevated than the country immediately around it. This water may come from many miles distant under the impervious bed, *c*, and there may be a sufficient supply of it to keep up a large and constant overflow at *w*. Such arrangements are by no means uncommon in various parts of the world. These living wells are called *Artesian wells*, from the circumstance of their having been first discovered, or their being most numerous in *Artois*, France. They can, of course, only exist where there are is higher ground at a greater or less distance.

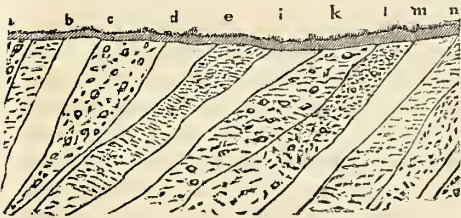


Fig. 5.

This illustration was, perhaps, sufficiently explained at page 126. We introduce it again, however, to refresh the memory, and add a word more in reference to the frequency of this arrangement of the soil, and the importance of thoroughly studying it. Place several pieces of different kinds of cloth one upon the other, taking thick and thin pieces of each kind, and put heavy weights upon several points. Then apply pressure upon the sides of the flat mass. The mass will be thrown into irregular shape, here an elevation resembling a hill, and there a depression like a valley. Now, with a sharp cutting instrument, pare or shear off some of the elevations to form a flat surface, and we shall see upon the sheared portion the edges of the different kinds of cloth lying side by side, much like the layers of soil represented in fig. 5. A similar arrangement would be produced if under the layers of cloth we thrust any substance to raise it up at different points, instead of producing the elevations by compressing the sides. Now, as before intimated, pages 125-6, there is abundant evidence that both the soils and rocks upon the earth's surface have been originally deposited from water in beds or layers, (strata,) like the layers of cloth, and that volcanic pressure from beneath has tilted up and displaced these beds, so that we find them in all positions, sometimes lying nearly flat, and sometimes standing almost on the edge, as shown in fig. 5. Much the greater portion of the earth's land surface is rock, formed of hardened materials, which were originally in a fine state—sand stones, for example, being masses of coarse or fine sand turned to stone. Our soils proper, are merely pulverized portions of the upper parts of these rocks, and their characters and composition depends upon the kinds of rocks out of which they were formed. The best soils

are usually those formed from several kinds of decayed rocks, the materials having been washed together by water. These are called *diluvial* soils, or if formed by moving water now or more recently acting, they are called *alluvial* soils. The upland loam soils are examples of the diluvial, having been formed of mixed masses of clay, sand, washed gravel, &c. The rich, recently formed soils upon the banks or in the valleys of streams, are examples of the alluvial. So the dark rich mud washed down from higher land into swamps or low lands, may be called alluvial.

Before leaving this topic, we may remark that a thorough *geological* examination of a section of any country, by competent men, furnishes most important information to the cultivators, in regard not only to the origin and character of the rocks and derived soil, but also in reference to the succession and inclination of the various beds of clay, sand, gravel, &c. Farmers are, in the end, the class by far the most benefitted by geological surveys, and we hope they will at all times second, and encourage any project for making such surveys, under the legislative authorities of the different States. A million, or two or three million dollars, expended in such a survey of any State or Territory of our country, would be of the highest value to the agricultural interests, while the expense would be shared by all kinds of taxable property. We hope yet to see such a thorough geological examination of every township, that every one can learn from looking on a map embodying the results, what is the character of the soil, how the beds of different kinds of rocks and soil are arranged together, what is their dip or inclination, what portions need draining, how the drains should be placed to be most effectual, &c. Geology promises to throw much light on all these practical questions.

Having thus discussed the arrangement of the soils on the surface of the earth, and the reasons for draining most of these soils, or the advantages arising therefrom, together with general rules for examining any portion to ascertain the probability of its needing draining, we will next proceed to the closing topic, viz.: *The methods of draining.*

GETTING RID OF ROCKS OR BOULDERS.

Where these are too large to drag out on a stone-boat, and yet are not absolutely immovable, it is an excellent plan to dig a large deep hole close to one side, and then roll them into it by levers. When this cannot be done, build a fire of brush and old rails on the top of the rock, and the expansion caused by the heat will soon split off large fragments. Remove these at once, with a crow-bar, and then renew the fire on the remainder, and so proceed until the whole nuisance is abated. A more sudden and prompt effect is sometimes produced by removing the fire after the rock has become highly heated, and dashing on a few pails of water.

LIGHTNING RODS.—Should be put up before the barns are filled with fresh steaming hay or grain.

WHEN TO GATHER CROPS.

This is an important topic. To cut grass when it is "ripe," and grain when ready to shell out, is far from economy. Careful observations and experiments, as well as chemistry, teach us that all grass and grain crops, to be consumed as food for man or beast, should be cut down before maturity. Many of the roots, also, are better for premature gathering. Potatoes may well be ripened in the ground; and, were it convenient to make the separation, we should say let grain, designed only for seed, remain upon the native stalk, in the field, until nearly ready to fall off. As we have said, experiments carefully made have proved conclusively that wheat, for example, if cut six to twelve days before full maturity, yields not only a greater bulk and weight, but more and better flour, than if allowed to stand until "dead ripe." We have frequently published the direct trials which have established this fact, and will not take space to repeat them here. Let us look a little into the *reasons* for such a result. It will not be disputed that a pound of gum, or sugar, or starch, is better food than the same amount of wood or woody fibre. Much the largest proportion of the nourishment of wheat or corn, or other grain, is derived from the starch it contains. More than three-fourths of the entire bulk of wheat flour, for example, is really pure starch. The same may be said of corn meal. But all grains contain more or less of woody fibre, in the shell.

Wood, sugar, starch and gum, are composed of precisely the same *elements*, and these are nearly in the same proportion. The difference in form and properties is chiefly in the arrangement of the elements. Yet wood is nearly indigestible, and of course fails, in part, to yield nourishment, while sugar, starch, and gum, are easily digested, and almost their entire elements furnish nutriment.

Examine grain in the milk, and it will be found to consist almost totally of starch, gum and sugar, the abundance of sugar giving it a sweetish taste. Let this grain ripen, and the starch, gum and sugar, are hardened, and in part changed to woody fibre, that is, husk or bran. But cut the grain while scarcely out of the milk state, and you stop the natural change into woody matter, and thus secure a larger proportion of the desired starch, sugar and gum. It is well known that the earliest flour made from first-cut grain possesses a peculiar sweetness. Corn picked while still soft, and dried, retains its sweetness. The only point to be looked to is, not to cut grain before it attains its full development of material. This point has been found to be just at the period when it commences hardening. No grain should be allowed to stand a day after it becomes so solid as to require a gentle pressure to crush the kernel between the thumb and finger-nails. This rule applies to wheat, oats, corn, and indeed to all cereal crops. Gathered at this time, which is usually eight to ten days before perfect ripening, there will not only be more and better nutriment, but the yield of grain, and espec-

cially of flour, will be from five to ten percent greater, and often more, than if the cutting had been deferred ten days.

The decidedly superior value of straw cut green, is another important item to be taken into account. The increasingly high price of hay, and the advance in the demand and value of stock, render it important to give more attention to the preservation of straw. Wheat or oat straw, and corn-stalks, if left standing until fully matured, are little better, and little else than so much wood; but stop the ripening process as soon as it is practicable to remove the grain, and you secure straw and stalks worth one-fourth to one-half their weight of hay, as the latter is ordinarily cured. Would it not be better to run the risk of getting a few pounds less of grain by too early gathering, if thereby you secure a greatly superior quality of feed in the straw?

The reasons for cutting grain early apply with equal force to all crops gathered for forage. Taste a stalk of grass just as it is losing its flower and you will find it sweet, succulent and tender. A few days afterward, it is more like a dry piece of wood. But cut it down at the former period, dry it in small masses to prevent heating and fermentation, and it will retain much of its sweetness, and contain a large proportion of the sugar, starch and gum. We state an undeniable fact, one established by rigid experiment, that *four* tuns of hay gathered just as the flowering season is over, will yield more *nourishment* than *five* tuns gathered ten to twelve days later. We have the best authority for saying that one acre of grass, which, when cut fully ripe would yield 1,000 pounds of digestible nourishing matter, and 2,000 pounds of woody fibre, will, if cut 10 to 12 days earlier, yield from 1,500 to 1,800 pounds of nourishing material, and only 1,200 to 1,500 pounds of woody fibre. We will not stop to estimate what an immense saving would be effected to the country were the principles above stated thoroughly understood and practiced upon.

GAS TAR.

We wonder that this article is not more generally used as a paint, in all localities where it can be obtained. Its usefulness for coating the lower ends of fence-posts, and all wooden structures exposed to moisture, is very great. In the preservation of wood from decay, it is necessary that the oxygen of the atmosphere should be excluded from it, and that the albuminous matters of the sap should be coagulated. Precisely in proportion as these two things are effected, will decomposition be retarded. No substance with which we are acquainted, helps to this result so cheaply as gas tar. As an illustration of its effects, it is stated that sleepers which had been saturated with this tar, and used in building a British Railroad, in the year 1838, have recently been taken up and found to be perfectly sound, while others, not so treated, rotted away in five years.

We have seen it used for coating the inside of eave-troughs, for painting iron railing and common wooden fences. It can be

used to advantage in painting carts, cowsheds, wagons, plows, gates, and all the iron work on the buildings, and implements of the farm. It will give them a neat appearance, and preserve them from decay. Horses will not gnaw any post or building to which it has been applied. We would not recommend it for painting dwelling-houses, front fences, or for any ornamental work. But for rear buildings, fences, tools, &c., it is just the thing. Its disagreeable odor, of which some complain, is only a temporary evil, and its dark color may be relieved, we should suppose, by mixing with it whitening or yellow ochre.

When used, the material to which it is applied should be dry, and the paint should be hot, though not in a boiling state. In applying it to fence posts, it should be heated in large kettles, and the butt ends of the posts thrust into it. When used as a paint, it may be applied with a brush, in several coats. It can be bought in all cities and large towns, where gas is made from coal, at quite a cheap rate, generally from \$2 to \$3 a barrel.

HEAD-WORK IN FARMING.

It is surprising how much muscular labor is wasted every year, which might be saved, or better directed. This is true in all kinds of business, and not the least in farming. For instance: how many farmers toil on, year after year, with scanty or imperfect implements of husbandry. The modern improvements, which save much labor, and do the work cheaper and better, they will have nothing to do with. Improved varieties of seed, they hold to be, almost without exception, humbugs. Draining and subsoil plowing are ranked in the same catalogue: *they* are labor lost; but manuring cold, wet lands, and plowing them late in Summer a few inches deep, and gathering scanty crops—*this is not* labor lost! Rotation of crops, and manuring lands with reference to the grains or roots to be grown on them, they consider something like book-farming—a very dangerous thing!

We never could see why farmers should not think for themselves, and be able to give a satisfactory reason for every process they undertake. We never could see why they should not endeavor to improve in all farming operations, to learn the very best way of doing everything, and then to do it so. It is told of a certain backwood's farmer, who had not yet found time to clear the stumps from his fields, that his boys complained bitterly of their troubles in plowing and harrowing—the old-fashioned “drag” especially troubled them by its frequent overturnings while plunging among the stumps, and needing to be set right side up at every few rods. “Boys!” said the enraged farmer, one day, “take that harrow over to the blacksmith, and tell him to make all the teeth twice their present length, and sharp at both ends, and we'll see what that'll do!” The thing was done: the teeth now pointed both ways, like those of a revolving rake. “Gee up, Bill; now go along;” “But, father, it has upset again, as bad as before.” “Never mind,

boy; go right ahead; it will work well either side up. See, now, what comes from a little thinking!” And sure enough, it did work, and the field was harrowed in spite of the stumps. We might have selected a more dignified example of the use of head-work, but this homely story will answer our purpose.

In the matter of rotation of crops, there is need of forethought and management. Some farmers neglect to manure largely, because of its expensiveness; they would like to underdrain more extensively, and to subsoil plow their lands, if these things did not cost more time, labor and money, than they think they can spare. But it costs no more to follow a good system of rotation of crops than it does to carry on a farm without any such plan. Yet such a system may bring the farmer three-fold greater and better crops. Nor in devising such a plan, has he got to depend entirely on his own experience or sagacity. Books and agricultural journals are at hand, containing the result of other men's experience, and all he has to do is to adapt such information to the wants of his own case. A very little head-work of this sort would pay well. It would pay in clean cultivation. Chess, red-root, quack-grass, Canada thistles, butter-cups, daisies, and what not, would hide their heads; and grubs, wire-worms, and all manner of insects, would rapidly diminish, if not wholly disappear. It would pay in the increased and prolonged fertility of the land, and in more bountiful crops.

A PLEA FOR SNAKES.

There is a vulgar prejudice against these reptiles, which, however easily accounted for, is both unwise and unprofitable. The common belief that the first tempter assumed the form of a serpent, is doubtless the original source of this almost universal dread of snakes. Every son and daughter of Eve seem to have a special license to bruise the head of all the serpent kind. All fear them, and all delight in their destruction, whether harmless or not. The venomous serpents are few, and the attacks of these are rarely fatal. The copper head, the rattle snake, and the moccasin, are troublesome animals, and we do not include them in our plea.

The large majority of the varieties found in our country, are not only harmless but positive helps to man in his cultivation of the earth. They are all insect eaters, and fairly earn their right to live, by the good they do. The black snake, the adder, and the striped snake are commonly found about our fields. Open the stomach of one of these fellows, and you will find it as well stuffed with insects, as that of the bird whom our legislators are careful to protect with the arm of the law. While the birds are laboring for man in the tree tops, and devouring the moths and slugs that prey upon the leaves of plants, the snakes are busy with the grubs that infest the roots. Their favorite shelters are old walls, stone heaps, ledges and neglected hedges, where insects resort in greatest numbers to deposit their

eggs. Here also the serpents breed, and cherish their young, using only neglected portions of the field. The dread, which man has of them is heartily reciprocated, and even the venomous, it is believed, only use their fangs in self defence. They never attack man, and are certain to be out of the way, whenever you want the ground for any thing else.

Ought not such unobtrusive helpers, in the cultivation of the earth, to have human protection? They are a part of that army of laborers, which Providence has raised up, to keep in check the insect tribes. It is because this army of helpers is so warred against, and exterminated by man, that the insects are multiplying so fast, and the fruit crop in the older states is endangered most every season. In the new settlements the birds, snakes and toads, and all the tribes that live upon insects are found in largest numbers. Here orchards always produce the finest fruits. But as settlers come in, and clear up the country they begin a war of extermination upon their best friends, and the insects multiply so that every fruit that sets in orchard or garden has a score of enemies waiting to puncture and destroy it. The balance, which Nature designed to be kept up between her several tribes of creatures is destroyed.

It is evident then, that the destruction of snakes, so common, is not only a foolish practice, but injurious to the best interests of the farmer. Why not let them share his protection, with the blue-bird, and the robin, the sparrow and the wren, and if necessary, have laws enacted to shield them from harm.

CULTIVATION OF BUCKWHEAT.

From what we have observed we think few farm crops have paid better than Buckwheat, during a few years past. There have, of course, been exceptions, in limited localities, but all that has been raised, has met with ready sales at good prices. We have seldom been able to purchase a good article of Buckwheat flour at less price than Wheat flour. Indeed, so high has the former been at times that Wheat flour of second grade has been extensively mixed with it. It is decidedly in favor of Buckwheat that it can be used as a make-shift, to fill in where from a late Spring or other cause it has been impossible to sow Spring Wheat, Oats, or other earlier crops. It may be sown in this latitude for raising grain as late as the middle of July, but we advise earlier sowing, say by the first of the month if not before, where it can be done as well at that time. For plowing under as a fertilizer, it can be sown from early Spring to the close of August.

Buckwheat (*Polygonum fagopyrum*), is sometimes called *Beechwheat* from the close resemblance of its kernel to the common *beech-nut*. Its use for hot cakes, familiarly known as "flapjacks" or slapjacks is too well known to require description. The recently improved hulling mills for removing the black shell, has tended to greatly extend its use. It is also good for stock, pigs,

poultry, &c. In Europe and also in some places in this country, it is very extensively raised as food for bees. It is grown for fodder, and if cured in a green state, and stowed away in small stacks of two or three tuns each, or in a dry loft, or on an open scaffold, and then steamed before feeding during the winter, or cut fine in a straw cutter, slightly moistened with water, and mixed with meal, it makes tolerably nutritious food for cattle and horses. Finally, it is also grown as a fertilizer, to be plowed deep under the soil when in blossom. Though not equal to clover for this purpose, still it enriches the land rapidly, and has the advantage of growing when and where clover will scarcely show its more delicate heads.

Soil and Preparation.—The best soil, undoubtedly, for Buckwheat, is a good, dry, light sandy loam; but it may be made to grow well in any soil if properly prepared. Fresh manure should only be applied to this crop when a growth of straw alone is wanted. When its grain is desired, dissolved bones is the best manure; next comes a mixture half and half of guano and bone-dust. We have seen fine large crops raised on the poor sandy soils of Long-Island and New-Jersey, by an application of ten to fifteen bushels of bone-dust per acre. Plow deep, sow the seed broad-cast, then the manure, then harrow well, and finish by rolling smooth.

Quantity of Seed per Acre.—If sown for a fertilizer or for fodder, put in one and a half to two bushels per acre; if for the grain, three-quarters to one and a half bushels per acre, is usually sufficient. Sow broad-cast, or in drills as most convenient.

Time of Cutting.—If for grain, cut as soon as the berry is well filled with milk, and before it gets very hard. Loss frequently ensues by letting it stand too long, for it is a grain that shells easily as the straw is turned in the field.

When wanted for fodder, cut just as it is going out of bloom, and cure the same as clover hay.

When plowed in for a fertilizer, do this in full bloom, and cover as deep and well as possible.

GAPES IN CHICKENS.

To the Editor of the American Agriculturist.

For a couple of years after commencing the raising of poultry, I was subjected to the loss of a large number of young chickens, and almost the whole of them by gapes. I inquired of an old lady, who has had great success in the chicken line, if she could tell what made the gapes. The reply was, lousy hens, and the cure, or I should say preventive, simply to grease the hens under the wings thoroughly, and around the neck as soon as she came off the nest.

Well, I tried it, and the result has been, the more I did not grease the hens the more chickens died, and vice versa. The whole matter, in my experience, is perfectly simple, and so far as practiced with my chickens, has been successful. When a hen comes off her nest with a brood, she is well greased, and from time to time, while confined to the coop, the operation is repeated, with occasional changes in the position of the coops. Should any of your readers try the experiment without a favorable result, I should be glad to know it.

DORRING.

TRY THE HAY CAPS.

For several years we have recommended these, and many of our long time readers have acted upon the suggestion. We doubt very much whether one of them can be found who would part with his hay caps for three or five times their cost, if they could not be replaced by others. But many have been wary of adopting the "new invention," and as we call to mind the fact that we have over 20,000 new readers this year, we are constrained to have another talk upon the topic. First then

How are they made? Get a piece of coarse cheap cotton cloth, the more closely woven the better. Let it be 1½ yards in width, if you can get that width conveniently, or if it be only 1 to 1½ yards in width, it will answer, though not quite so well. Cut it into square pieces, and with a strong twine tie a wooden pin upon each corner. The pin may be about a foot long and an inch in diameter at one end, and sharpened to a point at the other. It may be a little better to hem the torn or cut edges, but this is not necessary, they will unravel very little. The pins are most readily made by sawing a straight grained inch board into foot lengths, and splitting it into square pieces. These can be whittled to a point with a knife or draw-shave, and with a knife or saw cut a notch or groove around the blunt end to tie the twine into. You can cut the cloth, whittle out the pins, tie them on, and "finish" eight or ten caps in an hour. A former correspondent assured us that in an emergency, he had made fifteen in an hour, adding "I did not stop to smoothe the pins much, as that was not necessary." All painting or varnishing preparations upon the cloth are worse than useless. The cloth will shed rain as well as a cotton umbrella, while any substance to make it water tight will prevent the escape of the moisture from the damp grass.

To use them.—Cut down your hay, let it wilt a little, pitch it into cocks, and throw a cap over each, fastening down the four corners with the wooden pins attached to them. Your hay may then stand until it is cured, and afterwards until you are ready to take it in. Two persons can take hold of the four corners of the lower one of twenty to forty of these caps, spread out one upon the other, carry them along, and dropping the pile by the side of a hay cock, seize the four pins of the upper one, spread it over the hay and pin it down, and take up the remaining caps and go on to the next cock. If at all active they can cover half a dozen tons or more in a single hour, and uncover it in less time.

Advantages.—Every one is familiar with the fact that hay "cured in the cock" is greatly superior to that dried in the sun. By curing in this way there is far less waste of leaves and "scatterings," than when gathered into windrows after being dried. This is especially the case with clover. The average annual loss in haying from damage by rains and dews, is much greater than is generally supposed. It is a low estimate to say that this loss is equal to one dollar per ton on all the hay cut in the country. Who

can estimate the number of animals which are rendered unhealthy and often lost from eating musty damaged hay? Who that has carried hay to market does not know that bright, green colored, well cured hay will bring two to five dollars a ton more than the same hay in a dark colored, "banged," poorly cured condition. The feeding value of hay depends much upon the amount of sugar, starch and gum it contains, but in sundrying much of these materials is changed to woody fibre. All of this is obviated by having a supply of cloth hay caps (umbrellas), so that you can not only dry it in cocks despite rains and dews, but also take your own time for doing it. Let us estimate

The cost and profit of Hay Caps. At 14 cents a yard for the cloth, a cap $1\frac{1}{2}$ yards square will cost 21 cents. The making can be done at odd spells, or on rainy days, and this trifling cost need not be reckoned. A dozen of them, costing \$2.52, will cover a ton of hay. They may be used, on an average, at least three times each season. If carefully housed they will last ten years. This will be \$2.52 for covers for 30 tons, or about 8 cents per ton. Allowing 50 per cent for interest and storage, we have a cost of $12\frac{1}{2}$ cents per ton, or a dollar for 8 tons. But we may double, or quadruple this estimate and the cost would then be but half a dollar a ton.

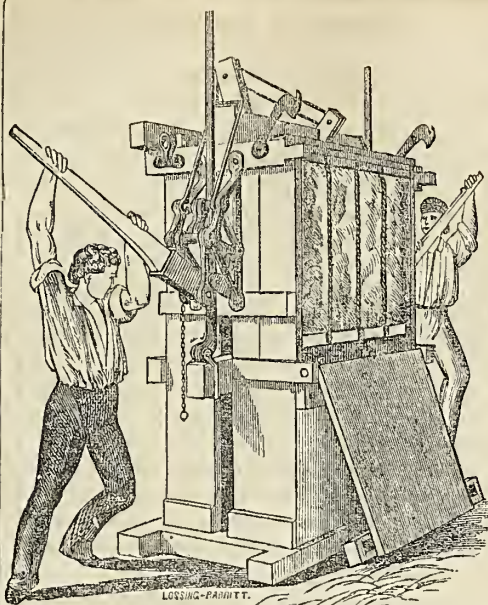
Other uses of the caps. The caps provided for hay may also be used for covering wheat and other grains standing in shocks in the field. It will pay to provide them for this purpose alone. We have heard of their being used over corn. When used for this purpose, they are of course subjected to longer exposure and weather, and will not last as many years, but even then they will pay we think.

Large caps for Wagons.—Several persons have used and recommended providing one or more large sheets to throw over loads of hay and grain in an emergency, and also over stacks necessarily left unfinished at night or interrupted by showers. The plan is doubtless a good one.

We have thus spoken strongly in favor of hay caps, but we do not do so unadvisedly. From what we already know of their use, we have little doubt, that in less than a dozen years, they will be considered as essential to haying and harvesting as any other implement now in use. We have letters—too numerous to publish—from those who have used them for years past, and they all concur in saying that they have more than paid their cost in a single year, and some have said "during a single long rain." We close by repeating the advice heretofore given: viz: try a few of them this year, and if your experience is so different from that of others, that you do not think they will pay, why the cloth will not be lost. Your wife will tell you that "cotton cloth never comes amiss, no matter what shape it is in."

Society, like shaded silk, must be viewed in all situations, or its colors will deceive you.

The mind has more room than most people think, if we would but furnish the apartments.



INGERSOLL'S IMPROVED PORTABLE HAY AND COTTON PRESS.

PRESSING HAY FOR MARKET.

There is an annual increase in the demand for hay, straw, &c., for use on ship-board, and also in our cities, where dry fodder is every year becoming scarcer and higher, owing to the absorption of meadow fields as pasturage grounds for milch cows and other animals. The new facilities for transportation constantly being opened, render it much easier than formerly to bring in from a greater distance hay, straw, &c., and a good Press for reducing these substances to a compact form for transportation has come to be a great desideratum. These have been constructed of various forms, but have generally been objectionable on account of their great bulk, difficulty of being removed from place to place, and the clumsy manner in which they are worked. Most of these difficulties have been obviated, however, in a recently-improved Press, of which we give an illustration above. We have seen several of these Presses of different sizes, and worked one of them with much satisfaction. In the cut, the system of levers appears more complicated than it really is. When to be put in use, the pulling of a cord drops the lower platform to the bottom, when the front represented here as thrown down is closed up, and the hay pitched in, and the top shut down. A lever is then put into the iron socket on each side, and by simply working the lever up and down, the lower platform is raised up with great force. When the material within the press is reduced to its smallest dimensions, the binding cords, which may be ropes, wooden withes, or annealed wire, (which is now coming into general use), having been previously placed in the grooves in the side of the press, are bound around the bale. The cover is then thrown up, the front turned down, and the bale rolled out. The compactness of the machine, the ease of transportation, the simplicity and continuous working of the levers, and the great power obtained, renders this machine worthy of attention. The same form of press is well adapted to pressing cotton and other substances. Cannot farmers contrive to press straw into bales, and send it to us at a cheaper rate than we can now get it for—six cents for a "bundle" no larger than one's arm? These presses are of various sizes, and cost \$50 to \$125. Further particulars may be obtained by referring to an advertisement elsewhere

A TURNIP DISCUSSION.

NO. I.

The farmers of America seem to be "all in a muddle" upon the subject of turnips. In England, the question is settled. Turnips are the sheet anchor of light soil cultivation, and the basis of the alternate system of English husbandry. It is the one great crop of the farm, and fills almost, if not quite, as large a place as maize does in our system of husbandry. It produces an enormous quantity of fodder, and makes beef and mutton abundant, and of excellent quality, and aids to a great bulk of manure. In short, turnips, coal and iron, are three strong material pillars of the British empire. The late Mr. Webster, in his last visit to Europe, made extensive observations of this crop among English farmers, and on his return to this country, frequently recommended it in his occasional speeches and writings. He also commenced its cultivation upon his farm at Marshfield with eminent success.

Many intelligent cultivators, especially those in the vicinity of our large cities, have experimented with it, and found it a paying crop for the purpose of fattening cattle. Turnips, we believe, are every year growing in favor in this country, and will eventually have a much more prominent place than they now hold, though we do not think it probable that they will form the basis of our agriculture, as they do in England.

There is a class of conservatives, and very intelligent farmers, who are entirely faithless as to the value of the crop, and ridicule its pretensions to any conspicuous place in a rotation for our soil. They tell us that the climate of England is entirely different from ours, the system of husbandry different, meat markets higher, and the crop that would prove highly remunerative there, will not pay here. They also inform us, with due gravity, that even if the crop would pay, it cannot be grown here with any sort of certainty, for they have tried it repeatedly, and failed. While the skies of England are perpetually dripping, and the climate cool, we have a clear, fierce sunlight in Summer, and frequent drouths, that make a turnip crop impossible. Other gentlemen of equal intelligence entertain sanguine views of the value of this root, and assure us of crops as abundant and as certain as the soil of England ever yielded.

Where does the truth lie? What are we to expect of the turnip crop? It would not be strange, if the opposite views we have here presented both should prove to be a little wide of the mark. The truth undoubtedly is, that the English climate is remarkably congenial to the constitution of this plant, and that their system of husbandry is calculated to make the most of it possible. Whether the quantity of rain falling there in a year be more or less than that which falls here, it undoubtedly comes more frequently, and the clouds and fogs keep the soil in a much more uniformly moist and cool condition. There are not such extremes as prevail with us. Then, as a rule, they cultivate their fields much deeper than we do, underdrain them, and use much larger quantities of manure. Though this bulb has nearly ninety per cent. of water in its composition, it will not flourish in a poor soil. To get twenty-five or thirty tons from an acre of ground, as is common there, requires large quantities of manure. The English farmer does not hesitate to lay out twenty to fifty dollars in manuring and preparing a single acre for this crop, and finds that this expenditure pays much better than any less sum. So safe is this investment, and so uniform is the practice, that in case of change of tenants, little difficulty is found in estimating the value of a turnip crop yet upon the ground, or the increased

value of the land prepared for turnips, where no crop has been gathered. The farmer there has one advantage over us in a mild Winter climate, which allows this crop to remain upon the ground, where it is fed by cattle and sheep. Thus the labor of gathering and storing the crop, so necessary here, is saved.

Much as Nature has done for the necessities of this crop in England, art has done still more. If the farmer there should attempt to grow turnips on the same kind of soil often used here, undrained, plowed shallow, and half manured, he would sometimes fail, as we do. The great want of this plant seems to be a rich, cool soil, where the moisture will be seasonably furnished through the Summer. Turnip culture in this country shows that these are the conditions of its healthy growth. On a poor, exhausted soil, it does nothing. But yard sheep at night for a month on a few square rods of the same field, and it will produce a luxurious crop of white turnips. Again, it does well on new, fresh cleared land. The virgin soil of the forest is full of vegetable matter, is light and spongy, so as to retain moisture better than old lands. Again, other things being equal, this root does better within a few miles of the sea-shore than further inland. The presence of the sea makes a cooler and moister atmosphere.

These facts indicate the true policy of the American farmer in regard to this crop. He should not touch it, unless he is prepared to furnish the plant the necessary conditions of luxuriant growth. If he can devote no more manure and labor to this crop than he gives to land producing but thirty bushels of corn to the acre, he is wise in eschewing turnips. He may as well stick to his text, that John Bull can raise turnips, and Brother Jonathan cannot. But if he believes that art can assist Nature, and remedy, to some extent, defects of soil and climate, let him plant turnips. If he will take the pains they do in England, we have no fears for the result. A soil may be made rich, cool and moist, like the virgin soil after the forest is cleared, where turnips always flourish. Light sandy soils are extensively used for this purpose, but they are well furnished with manures and vegetable matter. Wet soils and heavy clays prove to be well adapted to this crop, when underdrained to the depth of three feet.

The extensive cultivation of turnips for the purpose of supplying feed for cattle pertains to a more advanced stage of agriculture than we have yet reached. But we are quite confident that we shall attain it before many years. It will make progress with subsoil plowing, under draining, and thorough manuring. From the general principles here laid down, the farmer will perceive what are the requisites of the piece of *ruta bagas* he means to plant.

This variety is frequently sown in June, but a fair crop may be expected, if the seed is put in early this month. We advise all who have cattle to feed in Winter, to experiment with a quarter or half acre prepared in a thorough manner, and mark the result. The sooner they are put in now, the better. For the numerous varieties of white turnips, a month later is time enough. In future numbers, we shall discuss a little more in detail the preparation of the soil for this crop, manures, varieties, methods of sowing, after-culture, diseases and enemies, and modes of storing for Winter use.

BIRDS AND WEEVILS.—It is said that a farmer near Binghamton, N. Y., last year, in order to convince a neighbor of the destructiveness of birds, shot a yellow bird in his wheat field, but on opening its crop, they found in it *two hundred weevils*, and but four grains of wheat, and in these four grains the weevils had hatched.

HOME-MADE FERTILIZERS.

A correspondent sends us the following as his plan of saving manures :

1. All the soap-suds, slops and other liquids of the house, your inquirer proposes to carry by a drain of four-inch tile, or by a metal pipe from the sink, or from a tub sunk outside the house into a tank near the stable, or into a brick receiver filled with dry swamp muck, and renewed as often as fully saturated, the saturated muck to be composted under cover, or taken to garden, orchard, or fields, according to the season of the year. Is there any cheaper or better way ?

2. In regard to the night-soil on the premises, your inquirer has been as yet unable to form any plan of managing it which is at all satisfactory. Any statement of a plan of management which has been tried and found to work well, or any suggestion that promises well, whether tried or untried, would much oblige one, and probably hundreds of your readers.

3. For the purpose of saving stable manure from the continual waste and deterioration caused by rains, winds, and sun, your inquirer proposes to build a shed, so as to admit of driving a wagon through it, to take away the compost made in it during the season of stabling. He proposes to use nine barrowfuls of muck for every single barrowful of stable manure. What better could he do ?

4. The liquids of the stable he proposes either to conduct by gutters into a tank, or to receive immediately into a bed of muck under, or behind the stabled part of his stock.

5. It is proposed to haul out several hundred loads of muck, to be hauled home when dry, and put under cover, for the purpose of absorbing liquids and escaping gases in composts, &c.

On these and other points, any suggestions would benefit
MANY READERS.

REMARKS.—1. The receiver should be cemented, so as to save all the liquid manure.

2. A good method of saving night soil is to have a light box under the privy, to be removed as often as once a month, and to use plaster or coal-dust daily, to absorb the ammonia. This deodorizes the material, and makes it less offensive than stable manure.

Another method is to have a cemented vault beneath, holding several cords, and to throw in muck and other absorbents, and clean out thoroughly once a year. It will depend something upon a man's location and facilities for obtaining absorbents, which of these methods he should pursue.

3. If muck is plentiful, nine barrowfuls of muck to one of manure would do well, though less would do, unless his land is very deficient in vegetable matter.

4. It will be better to have a pump in the tank, so situated that the water can be occasionally pumped over the compost. This will prevent undue heat, and will diffuse the good qualities of the liquid manure equally through the whole mass.

5. This is all right, and if our readers will all follow out these suggestions, there will be less occasion to buy guano or other concentrated fertilizers.

HUMBLE VIRTUE.—Flowers have bloomed on our prairies, and passed away, from age to age, unseen by man, and multitudes of virtues have been acted out in obscure places, without note or admiration. The sweetness of both has gone up to heaven.

WONDERS OF THE BEE-HIVE.

NUMBER I.

On this beautiful May morning, when the warm sun is hurrying up vegetation, which unfortunately "slept over" this Spring, and the orchards are in glorious bloom, our attention is called to the *honey bee*, which is so early on the wing, and so diligent in improving every opportunity to increase its stores of food. Here is one, flying from flower to flower, stopping now to try one blossom and soon leaving it as if it had already been visited, pausing longer at another and drinking in its rich nectar; and then again on the wing, as joyous and happy as the birds of Summer. We must capture some of these busy insects, and invite our readers to examine them a little more closely.

We might easily throw a handkerchief over one that is busy on the flower, but a better way is to take a common glass tumbler and clap it over the flower upon a book or shingle, shutting the bee up in a glass prison, where we can keep it until we have leisure to look at it. There, we have succeeded, and breaking off the stem of the blossom we carry the captive home with us.

It is a curiosity, even as we see it through the glass; that restless motion of the wings, that singular hum, and all the evidences of life, are well worthy of our notice. There's some anger, too, but we will not expose ourselves to the poisonous sting.

A common magnifying glass will help us in our study of its habits, and instead of killing the bee, we will put it to sleep by pushing under the glass a little piece of cotton, on which we have poured a few drops of chloroform. In a few moments we find it stupefied, though not entirely motionless, and we can observe the movements and joints of its limbs better than in a dead carcase. Spirits of camphor would answer the same purpose as chloroform.

The bee is an *insect*; everybody knows that; but what is an insect? We turn to Mr. Dana's definition in Webster's Dictionary,—"*an articulate animal*,"—something that has life, sensation and the power of voluntary motion, and that is furnished with joints; "*composed of three distinct parts,—the head, corslet or thorax, and abdomen*;" these we readily distinguish. "*The legs, six in number, with usually two or four wings (the bee has always four) attached to the thorax; and along the sides of the abdomen minute punctures, called spiracles, by means of which the respiration takes place.*" We can count the legs and the wings, but the breathing holes are not easily seen without a powerful magnifier.

What a curious head the bee has! Its shape is singular, and on each side it has what seems to be an immense eye. But in fact each of these balls is composed of an immense number of eyes, crowded close together, and six-sided in form. We cannot distinguish these with a common magnifying glass, but we can see the minute eye-lashes that come up between these separate eyes to defend them from injury. What need is there of so many eyes? Does it not hinder the vision? We should be greatly embar-

passed if we saw every object multiplied a thousand times; but we do not see objects double because we have two eyes, and probably the bee also sees everything singly. It is supposed that many eyes are given it that it may see on every side at once, and without turning its head.

We find also two black horns, called *antennae*, a fifth of an inch long, standing out in front of the head. These move in every direction, and are supposed to be organs of feeling. The loss of them would occasion great inconvenience to the insect, and bring its usefulness to a speedy end. They are undoubtedly of special service within the hive, where, in complete darkness, work must go on with perfect regularity. We notice, too, that bees meeting each other, cross their *antennae*, which is their way of shaking hands.

The bee belongs to a class of insects that have a *trunk* or *proboscis*, quite as serviceable if it is not as large as that of an elephant. We see it to the best advantage when the bee is taking up food; for at other times it is usually carefully folded up out of sight under the head. When it is fully opened, we can distinguish five separate branches, shining as if they were made of horn. The middle and longest of these is the real trunk, and the others are its sheath. It is flexible as India-rubber, and when dipped into honey it collects a small amount, which is easily transferred to the mouth. It is said not to be a *tube* through which liquids can be drawn, but to resemble a tongue for lapping up food.

Beside this trunk, the bee has a regular mouth and jaws, not moving up and down like ours, but sideways. With this it is enabled to do all the nibbling needful; it can trim down its combs, it can bite away parts of flowers to get more easy access to the cups of honey, and it can even gnaw through paper and cloth. Its tools are humble, but efficient.

There are also two small black *feelers*, called *palpi*, one on each side of the mouth, shorter than the *antenna*, which are too small to attract notice, and the object of which we cannot state with confidence.

So much for the head of the bee; but its other parts are also worthy of study. The *thorax*, or middle portion of the body, is covered with hairs, and to it are attached two pairs of wings and six legs. The wings of each pair are of unequal size, but so closely united as to move together. We stop to admire their delicate texture, the penciling of the frame-work, their smoothness, gloss and transparency.

Then the legs are curious, especially the hind pair; the middle joints of these are flattened out so as to form a kind of basket, and the bee we are examining has actually got a load of meal, kneaded up into balls and well balanced on either side, and reminding us of going to mill on horseback with a bag of corn.

This meal is the pollen of flowers, which serves as meat for the young brood; and which, when deposited in the hive, is known as bee-bread. When a bee alights on a

flower he collects the honey secreted there, this meal sticks to its jacket; and the bee, being neat in its habits and economical withal, brushes it away carefully and packs it down in its baskets, and so goes home with a double load, of honey and bee-bread.

At the end of each leg we find a *double* hook, by which the bee can suspend itself and hang any length of time without exertion.

The *abdomen* is composed of a number of rings, which play into each other like the parts of a spy-glass. It is on the sides of it that the breathing holes are placed, but the chief point of interest, if not of attraction, is the *sting* at the end. The bee we are examining has very kindly consented to thrust out its sting for our inspection; and a minute drop of its poison rests on the very tip of it. We smell it; it has a peculiar odor; we taste it: once is enough, and we will not keep it long on the tongue, lest head-ache should follow; for this poison, unlike that of the rattle-snake, cannot be swallowed with impunity. The sting has a barbed point, and when thrust into the flesh is not easily withdrawn, and the poison ejected through it needs but little time to produce large and painful swellings. This is the protection that the bee has against its enemies.

We have not come yet to the wonders in the bee-hive, but this bee came from a hive, and there are thousands more like it there. They go where we cannot go, but we shall try to make them disclose some of the mysteries of their temple, and give us the sign and pass-word of the fraternity.

ARTIFICIAL SWARMS.

To the Editor of the American Agriculturist:

I would advise a little caution in making "artificial swarms," as recommended on page 130 of the *Agriculturist*, June number. It is, that a "new queen will be speedily provided" by the old stock, after forcing out the swarm, &c. I have a little experience in this matter, resulting quite differently,* and that is, the old stock will utterly refuse to do any such thing, nine times in ten! The only chance of success is during the swarming season, while something of the swarming fever is present. If done later than this, it is necessary to provide another queen for the old stock, after taking out the swarm. When not done at the proper season, and no swarms issue, the advantages are generally on the side of letting them remain. Put on boxes, the surplus honey and a strong stock are worth more than two weak colonies poorly supplied with honey, as is usual in such cases.

M. QUINBY.

* See remarks on this subject, in the "Mysteries of Bee-keeping Explained," pages 253-4-5.

REMARKS.—Our experience differs from our correspondent's; and referring to the facts mentioned in his volume, we see no reason to withdraw our advice to make artificial colonies about the time of natural swarming. Mr. Q. waited till the swarming season was past; then, disappointed because his bees had not colonized, he forced some swarms, which did tolerably well. In the original stocks also, from which the swarms were driven, the bees seemed to be industrious for a time, and brought in pollen, but

after some weeks had passed, he found them destitute of eggs and brood. He does not tell us there were no remnants of queen cells; and so we are at liberty to believe that queens were reared, and were lost after leaving the hive to meet the drones, in the manner he describes on a previous page. It may have been so late in the season that no drones were to be found. This opinion is confirmed by his remark in subsequent experiments, that in such circumstances "they were very sure to rear queens," which, however, "from some cause were lost after they were matured." But this accident also happens after natural swarming; and certainly, the use of sealed queen-cells in the manner recommended by Mr. Q. will not ensure one against the same thing in forced swarms.

THE CHEDDAR CHEESE.

This particular manufacture of cheese, which has acquired a considerable notoriety for superior excellence, is made in the following manner:

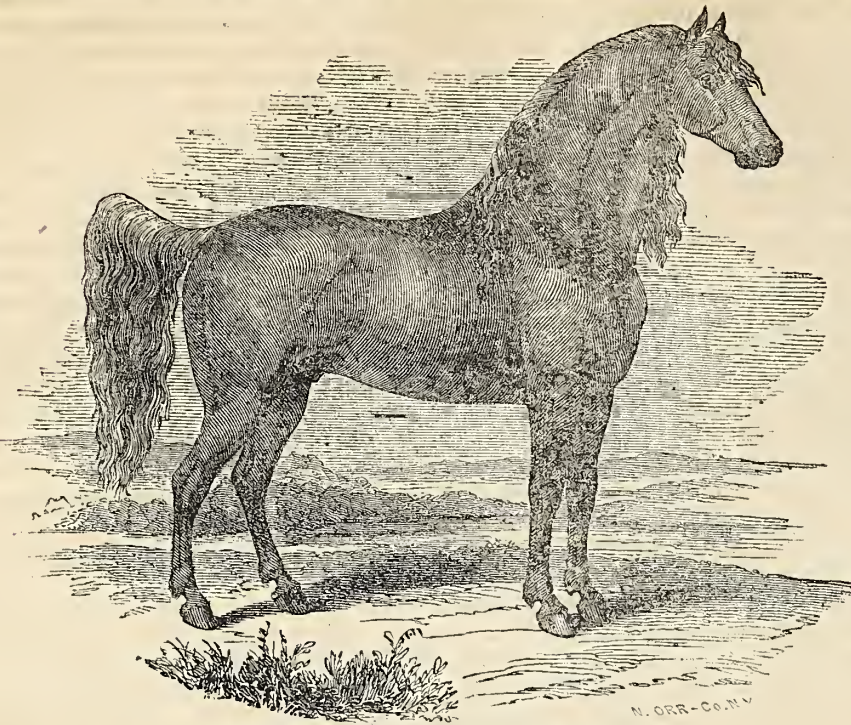
As soon as the morning milking is over, the milk is mixed with that of the previous evening, and the whole is warmed to 80° by heating a small portion of the night's milk. As soon as it is of the exact temperature, which is ascertained by the thermometer and not by guess, pure, well-flavored rennet is added in the usual manner, and the whole allowed to stand one hour for coagulation. Next gently break the curd and take off a small quantity of whey, to be heated in a tin vessel placed in water.

Break the curd carefully and minutely, and add as much of the heated whey as will raise the temperature to 80°, leaving it another hour, when a few pailfuls of the whey are heated so as to raise the whole mass to 100°. Previous to pouring on this latter, the curd is broken as carefully as before, and the whole is actively stirred to mix it regularly, and not allow any portion to become over-heated. After standing half an hour, remove the whey by dipping out the greater part of it from the top, and drawing off the balance from the spigot at the bottom.

When most of the whey is thus drawn off, cut the curd from the sides of the tub and heap it in the middle, where it should remain an hour longer. The curd is next cut in large slices, and turned over in the centre of the tub as before, leaving it to drain for half an hour. After this interval, it will be ripe for pressure, but must first be cooled to 65° by breaking with the hand and placing on a cooler. Having reached the proper temperature, put it in one or more vats (molds), and subject it to a moderate pressure for fifteen or twenty minutes.

The next process consists in taking the curd from the vat and passing it through the curd-mill to break it finely, when it is salted and made into a cheese. A pound of good salt is sufficient for fifty pounds of curd.

The cheese is now carefully put into the press, where it remains till next morning, when it is reversed in the vat, and another cheese-cloth is put on it. The morning following, a fine cotton cloth is used, to give it a smooth surface, and it is again reversed in the vat, and pressed twenty-four hours, after which, it is laid upon the shelf. When the cheeses are taken from the press, they are each placed in a piece of canvas to preserve their shape. At first, they should be turned daily, but as they become firmer, they require it less frequently. A temperature of 55° to 65° is regarded as the best for ripening Cheddar cheese



GIFFORD MORGAN, JR.

Foaled May 23, 1850, the property of Elijah Judson of Woodbury, Conn. Sire, Gifford; g. sire, Woodbury; g. g. sire, Justin Morgan Dam, Ribbon Back, by Young Black Hawk; g. dam, taken from Vermont to Connecticut in 1825, and said to have been sired by Justin Morgan. Gifford Morgan, jr., is jet black, a little under 15 hands high, and weighs about 1,100 lbs. He is now owned by Mr. H. B. Munson, and is kept at Keokuk, Lee County, Iowa. We are glad to see the Morgan stock so well represented west of the Mississippi.

LETTER FROM TIMOTHY BUNKER, ESQ.

HIS VIEWS ON PASTURING CATTLE IN THE ROAD.

MR. EDITOR:—You see, I was so busy last month, planting, and getting things started for the Summer, that I didn't find a minute's time to write to anybody, and hardly to be polite to my neighbors. I wish all my neighbors had been as busy, and as slack on politeness as myself. But no sooner had the grass begun to start in the Spring, than some of them began to send along their compliments by their cattle, as much as to say, "By your leave, Mr. Bunker, I will keep your lawn in front of the house well cut and shaven, and won't ask you anything for the job." I counted, on Saturday, at least a dozen animals in the road. There was Jake Frink's horse and colt, and Bill Bottom's drove of yearlings, and Uncle Jotham Sparrowgrass's two cows, besides two or three other folks' cows that I should not like to mention in the same company.

Now you see, Mr. Editor, if a man's going to be polite at all, it is always best to attend to it in person. This sending along civilities by stray cattle is rather doubtful courtesy. It might happen, you know, that the shaving of one's lawn down to the roots would not be acceptable, and if it were, a second civility in the shape of the hogs to turn the sod of the lawn bottom side up, might be a little too much of a good thing. (You see I have learned to say "*lawns*" since I commenced reading the papers.)

Now I don't like to say a word against my neighbors in general, or the Hookertown people in particular. But this turning cattle into the street is a piece of bad morals, that is a disgrace to any community. It is against the law, and every man has a right to put stray animals in the pound, and make the owners pay damages. But if one enforces the law, it always makes trouble, and the man who finds his cattle impounded, always feels aggrieved, and lays up a grudge against his complaining neighbor. He does not consider that he has himself been an offender first, and

violated the law. It is a clear case, that when streets were laid out, they ceased to be private property, and were henceforth to be held for the public good, to serve simply the purposes of travel. If a man turns his cattle into the high-ways to feed, he violates the rights of his neighbor, as much as if he turned them into his neighbor's pasture. He appropriates to his own use, what belongs to another. He not only trespasses upon the public domain, but his cattle become a nuisance to the whole neighborhood. They enter every open gate and yard, and frequently become unruly, leap fences, and destroy crops at this season of the year. The loss of temper from these constantly-recurring provocations is very great. I think Job himself would have fretted some, to have waked up in the morning, and found a dozen cows in *his* corn-field.

It is a barbarous practice, and costs the community a hundred-fold more than all the grass in the road is worth. We have to make a great deal more fence than we should need, if everybody confined their cattle to their *own* pastures. Now, every man has to fence all his lands by the road, not for his own convenience, but to keep other folks' cattle from trespassing upon him. I have been in communities without fences by the road-side for miles, and rode through the standing corn, and rye and oats, without seeing a cow or calf. When we reckon fence at a dollar a rod, we can see to what a large expense farmers are subjected, to give a few penurious people the privilege of pasturing their cattle in the road.

You see, Mr. Editor, I am not going to stand this nuisance any longer. I shall give Jake Frink and Bill Bottom one fair warning, and after that, if their cattle are found in the road, they will go to the pound. This kind of politeness costs too much entirely. What do you think of it?

Yours to command,

TIMOTHY BUNKER, ESQ.

Esquire Bunker is right. Cattle running at large are a nuisance that should not be tolerated in any civilized community. The

pound is a sure remedy. Let him try it.—
Ed.

WHAT IS THE MATTER WITH THE HENS?

"Have not had an egg for a week, and the corn they eat is a caution in these hard times." They are shut up in a yard, of course, and cannot have access to the green grass, and to the insects, which Providence has provided for them in Summer. "Man shall not live by bread alone." And the proverb is true of fowls. What could you expect of sensible hens, but that they would stop laying when you cut off the supplies. Now get a liver from the butcher's stall, or any other cheap meat, and see with what avidity they will devour it, and almost quarrel for the last morsel. Offal from the fish market, or any animal food, will answer quite as well. If at a distance from markets, upon the farm, and you confine your hens, mix coarse meal with whey, or skimmed milk, to satisfy their craving for animal food. Supply them also with clear water, and grass or weeds daily, and ashes and oyster shells. Look also at the roosts, and keep the droppings well sprinkled with plaster and muck. Attend to these things, and you and the hens will soon sing a new song over fresh laid eggs.

A GOOD WORD FOR TOADS.

Tradition says of the Indians, that it was their custom when they carried their friends out to burial, to call for eulogies of the dead as they stood around the grave. If a good word could be spoken for the departed, he was committed to the dust with all the honors; but if he had lived so worthless a life that no one could speak well of him, he was left by the open grave, without the rights of sepulchre.

Were this custom now prevalent, it might go hard with the toad, if we took common fame as the true interpreter of his merit. It is true that Shakspeare sung of him, some centuries ago:

"Sweet are the uses of adversity,
Which, like the toad, ugly and venomous,
Wears yet a precious jewel in his head."

But the poet's faith in his jewels is now put down among popular fallacies, and he is simply regarded as an ugly monster, one of those mysteries of Providence which mortals are not expected to fathom. Neither for good or bad qualities is he celebrated, but is looked upon as a disgusting reptile, without use appreciable by man. But there was truth as well as poetry in the bard's illustration. The toad has a jewel, but he was mistaken about its locality. It is seated in his stomach instead of his head, and, unlike the oyster, whose pearls are the result of disease, this comes of health and good digestion.

We were walking in our garden the other day, as we love to do, and came upon one of these squatters among our squash vines. He was seated near his hole in the wall, surveying the premises, and apparently enjoying the growth of the vegetables like a philosopher. Have you ever noticed the

benevolent expression in the eye of a toad? If it were not for his uncouth dress, we could call him a gentleman. His philosophic mien was catching, and we fell to speculating upon the value wrapt up in that carbuncle jacket. We asked the question, so current in *upper tendom*, what is he worth? not looking upon him, however, as a candidate for matrimonial honors, even if it should appear that he had a million of jewels in his head. It is said that the Creator has formed nothing in vain, nothing without specific plan and design. Why was the toad made so disgusting, dirt-colored, wide-mouthed, pot-bellied, and moping? There is nothing about him to inspire affection or terror. Just then, some pestiferous squash bugs were crawling upon a neighboring leaf, and to see how ugliness would look in company, we threw a couple over to old carbuncle. In a moment his eye flashed with intelligence, and quick as thought his capacious jaws closed over the unlucky insects, with a snap like that of a miser's purse-clasp closing upon mint drops. We saw at once the worth of toads. The jewel in his stomach was an appetite for bugs.

We are not certain but a good supply of these animals in a garden would be as good a protection for the vines that bugs prey upon, as any of the specifics so confidently recommended. At any rate, the bugs and millers that pass their jaws, go to a returnless bourne. We could but think of the folly of the prejudice against this very useful class of animals. They should be domesticated in every garden, where they will lead reputable lives, and set man an example of patient industry in bug-killing, worthy of imitation.

HOUSE SLOPS—A GOOD WAY TO DISPOSE OF THEM.

See here! Messrs. Readers. Don't pass over this article with the mental conclusion that this does not interest *you*, as you have prepared a drain for your house slops, or that the "women" will look after *such* matters. We have half a tun of first best guano to sell you for three dollars sixty-two and a half cents—usual price, thirty dollars. Will you take it? Of course you will, especially if we pay the transportation, as we propose to do. But on a second thought, we have concluded we cannot spare what we have, but we will tell you where you can get it, or rather something equally good, and just as cheap.

In the *Agriculturist* for June, 1856, we described *one* method of using sink slops and *all other* liquids from the house. Here is the outline of the plan: In a large garden, in the corner nearest to the kitchen door, we dug out a pit, sunk in it a large pine hogshead, made for sugar and afterwards used for packing crockery. The upper head was taken out, and a board nailed across it to hold the pieces together. This board projected on each side far enough to serve the double purpose of handles, and to keep the head from falling in. The earth was filled in around the outside, the top being set on a level with the ground.

Into this reservoir, costing about 62½ cents we directed the kitchen and chamber maids to throw *all* sink slops, dish water, washing suds, chamber liquids, in short, all fluids and waste materials from the house. The coal ashes were also sifted into it. Though the hogshead was a loose affair, not tight enough to hold dry sand, the soapy materials soon formed a tight bed of the earth around it. As fast as the liquids accumulated sufficiently, they were baled out and deposited around the various plants in the garden. This was usually done at evening, after the labors of the day were over. To dip them



out, we used a home-made ladle, made by fastening a long handle, with screws and wrought nails, upon the side of a large paint tub that chanced to be at hand.

Now for the result. At the time of planting, the only manure used was less than a barrel of bone-sawings, put in with the seed, upon a quarter of an acre of poor soil, one-half of the surface having been covered over with earth from a cellar, and no manure having been applied in previous years to any part of the lot. We were unable to do anything at working or planting the garden until about the middle of May and later, and yet our "slop tub" produced such a magical effect that every thing planted, and there were not a few varieties of plants, grew most luxuriantly. If anybody had better vegetables, or more of them on the same amount of ground, we did not hear of it.

Moreover, though we live in a house of "moderate pretensions," and have but a "small family," there was about twice as much liquid in our reservoir as was needed, and we were really puzzled to know where to put it all. It could easily have been spread over half an acre of moderately good soil, that is around the roots of plants. If this appear like a large statement, just reckon how much soap, for example, is used during a single Summer, how much dish water and suds are required on a single washing day, and how much other waste fluids. Add to these, stale water thrown out when fresh is drawn, the drippings from the pump in the sink, the water used in washing potatoes and other vegetables, the sour milk, &c., &c.

The whole extra labor of saving these liquids in the reservoir, and distributing them over the garden, was not a dollar and a half. And how much better to use them thus, than to let them run off into a stagnant drain, or allow them to breed miasma, and an unpleasant stench under the sink-spout.

We have given you the *result* on our garden. A little reasoning upon the nature of the materials, and the benefits of using them in the liquid form, will show that just such results might be expected. As great sticklers as we are for the use of good Peruvian guano, *when cheaper manures can not be obtained at home*, we believe that it is more economical to husband the house slops in the manner we have described, than to buy guano at \$7 a ton (regular price, \$60 to \$65)—though note here, that guano is

profitable at the highest price, *after* the home manures are all used.

A word more about the reservoir. In May, this year, while making sundry improvements, we concluded to give our hogshead a neater look. To do this, we cut four pieces of boards, ten inches in width and four feet long. These we nailed together at the corners, to form a square frame, which was set down around the top of the hogshead, leaving the top a little above the surface. This was covered with four boards sawed into right lengths, and nailed, one upon the back side, and the other three fastened together by two strips on the under side, to form a movable cover. The rear edge of the cover is attached to the board nailed down by a couple of iron hinges. Whenever we wish to get at the reservoir, to pour in or take out the liquid, the cover is turned back. A coat of cheap dark paint was applied to the unplanned boards, and the whole is as neat as a painted box set down into the ground.

Cost of the superstructure: Two boards, 32 cents; hinges, 10 cents; paint, 12 cents, and one and a half hours time spent in making, not reckoned—paid by the pleasure of doing the thing.

Estimated value of the liquid manure *this* Summer, twenty to forty dollars, according to the season, and the consequent amount of extra watering the garden may require, *plus* the promotion of health and pleasure resulting from having all decaying slops neatly disposed of.

THINNING OUT VEGETABLES.

It seems a pity to put a hoe into those luxuriant rows of beets, carrots, parsneps, and onions, that already give promise of an abundant harvest. But full two-thirds of them must still be sacrificed, before you can get a full crop. They are cramped for room. The carrot sends out its roots on all sides of the main tap, and if it have chance, will completely occupy the soil on all sides of it with its fine rootlets. One root will appropriate the aliment in a square foot of soil, much better than a half dozen, and will make a greater weight of nutritious food at the harvest. This is what wise cultivators are seeking for,—the most food upon the least surface. Thin out then to six or eight inches apart, and if you want very large specimens for the Fairs, make the spaces a foot wide. The roots that are pulled up are excellent fodder for cows and pigs, and if you throw a few into the poultry yard, they will be appreciated. Try it and see.

MULCHING VEGETABLES.

Most rural improvers understand the value of a heap of old hay, or straw, around the trunk of a newly-set tree. It keeps the roots cool and moist through the season, and gives it a fair chance to live. It is equally serviceable in the vegetable garden. There are many plants that throw out their roots near the surface of the ground, and these fail as soon as the dry weather of Summer comes on. Peas frequently fail before yielding half a crop. A mulch of old straw between the rows will be of great ser-

vice to them, and prolong their bearing. Cauliflowers require a great deal of moisture in order to head well during Summer. Now is the time to give them a handful of straw, to keep the soil around them cool and moist. Egg plants and tomatoes are also benefited by mulch. Before it is applied the ground should be scored deeply with a hoe, so as to give opportunity for the circulation of air underneath the straw. If weeds and green material are used, they must not be put on so thickly as to ferment.

MELON BUGS.

Under this general name we include any and every insect, from the little black, almost invisible nit, to the large, yellow striped bug. Each year we meet with some new specific exterminator of these pests. Now, it is quassa, then it is decaying fish, or swabs of turpentine, guano, sulphur and pepper, soot and ashes, or thumb and finger patiently applied. To us, it always seemed that the sifting of soot, ashes, snuff and pepper, on the tender leaf, must injure the leaves, and so the health of the plant. Boxes covered with millinet have proved very serviceable to us for several years. For the last two seasons, we have used a simpler contrivance, viz.: a thin sheet of white cotton wadding laid over each hill of plants, and confined at the corners with small stones. This allows the light, heat, air and moisture, to reach the plants, but excludes the bugs perfectly. As the plants grow, the wadding may be loosened a little at each corner.

THE NEWER NATIVE GRAPES.

In a recent article, entitled "Grapes vs. Dwarf Pears," we promised to speak, at another time, of some of the best hardy grapes of recent introduction. That promise we now purpose to fulfil.

The Clinton Grape.—This is hardly a new grape, yet it is not so widely known as the Catawba and Isabella. It is said by some, to have originated in Central New-York, in a town of that name; by others, it is traced to a garden in Waterford, N. Y., the proprietor of which named it in honor of Gov. Clinton. The vine is perfectly hardy, easily propagated, of rapid growth, and is a regular and prodigious bearer. The clusters and berries are not large, both being about two-thirds the size of well-grown Isabellas. The fruit is round, black, and covered with a thin, blue bloom. Flavor somewhat rough and acid, especially if eaten before the fruit is fully ripe. It matures a fortnight or three weeks before the Isabella. Mr. Longworth, of Cincinnati, has experimented with it as a wine grape, and speaks of it in favorable terms. For northern latitudes, and for persons not fastidious about delicate flavors, it is worthy of cultivation.

The Concord.—This new grape ranks much higher than the preceding. It was raised from seed about twelve years ago, by E. W. Bull, of Concord, Mass., but was not offered for sale until it had been fairly tested for several years in his own grounds. We understand that this gentleman's method of

raising new grapes is as follows: He sows a great number of seeds of hardy and approved sorts, but rejects those which come up the first year, because they are generally found to be barren. The second Spring, the ground is well stirred, and a new crop of seedlings springs up from the first sowing, among which improved varieties are found. In this way, the Concord was obtained.

As to the qualities of this grape, we see no reason to change the opinion we have heretofore expressed. It is hardy, of luxuriant growth, and the fruit ripens from ten days to a fortnight earlier than the Isabella. The clusters are large, shouldered; berries large as the Isabella, often larger, nearly round, black, with a beautiful blue, plum-like bloom. We have seen bunches which measured $7\frac{1}{2}$ inches long, and $5\frac{1}{2}$ wide at the shoulder, fairly resembling Black Hamburgh's. The berries are sweet, tender, juicy, a little foxy, and not quite so delicious and aromatic as the Isabella when fully ripe. We rank it in quality a little below the Isabella, but when its superior hardiness is taken into account, as well as its earlier period of ripening, we think that for northern climates it will prove the most popular grape. It must become a very showy market fruit. Below the latitude of Albany or Newburgh, good judges still prefer the Isabella and Catawba.

The Diana.—This is an older variety than the Concord, but has not made as great a sensation in the horticultural world. It originated in the garden of Mrs. Diana Crehore, of Milton, Mass., and was named after her. It is a descendant of the Catawba, which it somewhat resembles.

Respecting the quality of this grape, we feel disposed to speak in the strongest terms. Bunches, not so long as Catawba, but more compact and heavy, not properly shouldered, but the main bunch has often a small one appended to it. Berries a little smaller than Catawba, and a shade paler in color; less pulpy, and more sweet and juicy than Catawba. Pomologists in the Southern States, who have grown it side by side with its parent, prefer it to that very excellent grape. The late A. J. Downing called it repeatedly, "the best American grape yet originated." We have fruited it several years by the side of many other varieties, and in eating from them all, one after another, have found ourselves almost unconsciously giving this the preference. If we could have but one native grape, that one should be the Diana.

The Delaware.—The origin of this grape seems to be somewhat uncertain. By some, it is claimed as a native; by others, as a "Lisbon wine-grape," or the *Traminer* of Germany, or the *Red Resling*. Mr. Thompson, of Delaware, Ohio, understands that it was sent more than fifty years ago to a gentleman in New-Jersey, by his brother in Italy. If it is a foreigner, its exemption from mildew, and its hardiness, are somewhat remarkable. But whether it is a native American, or an adopted citizen, we welcome it as a worthy member of the grape family. Cluster small, compact,

sometimes shouldered. Berries about the size of Diana, and round. Skin thin, and of a coppery rose color. Pulp, very little. Flavor sweet, aromatic, more sprightly than the Diana. In our own grounds, it has grown somewhat slowly, and has not yet borne abundantly. It appears to be perfectly hardy, not an inch of young wood having been killed by the past two winters. Mr. Charles Downing and other equally good judges pronounce it one of our best hardy grapes.

The Rebecca.—Here is a new comer, and one whose coming has been warmly greeted. It is a chance seedling, which sprang up about eight years ago, in the garden of Mr. E. M. Peake, of Hudson, N. Y. It is perfectly hardy, having endured exposure unharmed for several years at Hudson, on an open trellis. Mr. Hovey gives the following description: "Bunches medium size, about six inches long, very compact, without shoulders. Berries medium size, obovate, about three-quarters of an inch in diameter. Skin thin, greenish white, becoming of a pale amber color at full maturity, covered with a thin white bloom. Flesh very juicy, soft and melting, and free from pulp. Flavor rich, sugary, vinous and brisk, with a peculiar musky and luscious aroma, distinct from any other grape. Seeds small; two to four in each berry." It ripens a week or ten days earlier than the Isabella. It won prizes last year, at the Exhibitions of several State Horticultural Societies, where it was pronounced by competent judges, "superior to the Sweetwater, and equal to the Golden Chasselas, or the Muscat of Alexandria." We have placed a Rebecca vine upon our experimental arbor the present season, and shall watch it with interest.

The Canadian Chief.—We have not yet seen this grape, but it is highly extolled by persons of reliable judgment. It hails, at present, from Hamilton, Canada West, and is hardy even in that climate, but is supposed to have originated in France. It is a white grape, resembling the Sweetwater, but with bunches more compact and larger than that variety is ever seen in open cultivation. We hope to learn more respecting it, the coming season.

Several other varieties of native origin are now being tested by committees and amateur fruit-growers in various localities, some of which will undoubtedly prove great acquisitions. Among these we may mention the Union Village, Carter, Brincklé, Stetson's No. 1, Graham, Clara, Allen's Hybrid, Emily, Breck's, Wyman's Seedling, and others.

The lovers of good fruit have reason to congratulate themselves on the introduction of so many excellent native grapes. To have superior table grapes, it is no longer necessary to erect costly glass structures. Everybody who has a house or barn, or fence with a south side to it, has hot-house enough to ripen the grapes of which we have spoken above. Indeed, even this is not absolutely necessary. Many persons have hitherto contented themselves with grapes more suitable for rifle-balls than for di-

gestion. If our readers—those who have not already done so—will plant those we have recommended, we are sure they will thank us for the advice.

GRAPE CULTURE—NO. VII.

BY WILLIAM CHORLTON.

MILDEW.

As this pest to the grape-grower commences its destructive effects, with the first damp and muggy weather in this month, and, if not timely checked, will ultimately destroy the hopes of the cultivator, the subject requires more than a passing notice. This intruder is a fungoid plant, strictly parasitical in its nature, requiring a living organism, upon which to commence developing. It is also entirely dependent upon a peculiar state of the atmosphere, otherwise the sporules or minute seeds which float unperceived in the air, cannot vegetate. These germs, individually, are so infinitely small, that the aid of a powerful microscope alone can reveal them to the human eye, but they are, nevertheless, real organic substances, imbued with the principle of life, which expand and multiply with wonderful rapidity when the requisite matrice and specialities are present. The first indication of mildew is manifested by brown spots on the leaves, generally along the mid-ribs and larger reticulations. The fleshy parts, so far as affected, are soon destroyed, and immediately after this, the fungus develops its fructification in the form of a white down on the under side of the leaf. In this state the spores are ripe for future growth; and so quick is this action, that in two or three days they will spread over a great part of the leaves and fruit, causing the entire vines to be irreparably injured for the season.

Our own native kinds, such as Isabella, &c., having a hardier constitutional power, are only slightly, and sometimes not at all affected, but owing to our extreme changes, we are not able to cultivate the exotics in the open air to perfection, excepting in the best sheltered city yards. They are, primitively, natives of the more temperate parts of the Asiatic continent, where the climate and meteorological conditions of the atmosphere, during the growing season, are more genial than with us, which conduces to a steady action in the plants, and renders them less liable to injury from external influences. Our sudden transitions are the cause of mischief. For a time we have fine warm and clear weather, which brings the circulation of the fluids briskly forward, and abundant exhalations of the watery portions are going on, thereby depositing the more solid material in the internal structure; when in a few hours the sun is obscured, and the air becomes saturated with moisture. Under these conditions, the leaves or drawing reservoirs from the roots cannot separate and discharge the aqueous fluid, when a portion of the unelaborated juices are forced out through the *stomata*, and become just the kind of food for the fungus to subsist upon, besides furnishing a clammy substance for it to adhere to. After many years close observation, I have invariably found that a sudden check to the circulatory medium of plants renders not only the grape-vine, but most others, very liable to be infested with mildew, while, if a healthy and vigorous growth be maintained, they are comparatively free. For this reason, it is advisable to keep the doors and lower ventilators closed, and admit air only by the upper openings until the fruit begins to lose its acidity, after which, there is no danger.

The antidotes to mildew are a warm and dry

atmosphere, and sulphur. Whenever it is detected, do not use any water inside the house during cloudy or damp weather, and sprinkle sulphur over the floor in the proportion of one pound to each fifteen square yards. There is no occasion to throw it over the plants inside the house, but in the vineyard or out-doors, it will be requisite to dust it in an upward direction, so as to adhere to the under side of the leaves, and prevent the rains from washing it off. The fumes given out by slow combustion are the remedy, and care should be taken that it is not ignited. Mistakes have frequently been made by persons introducing burning sulphur into graperies and plant-houses, as well as using it under the leaves of trees out-doors, the consequence of which is, a total destruction of the foliage, if not death to the plant.

OUT-DOOR CULTURE.

Continue to keep the ground clear from weeds, using the hoe freely, but do not injure the roots. Remember that every weed draws moisture out of the earth, while every stroke of the hoe enables the dews to penetrate. Wherever it is possible, a good mulching of barn-yard manure, or any kind of vegetable refuse that is free from weeds, ought to be spread over the whole surface, which will assist in keeping the soil moist, and promote the vigor of the vines. Do not let the growth become crowded. Nip out the side laterals on the young canes down to the lowest leaf upon each, and the new growth of the fruit spurs in the same way to where last stopped. Soap-suds and chamber-ley are of great benefit, applied in dry weather, when the vines are growing freely. They ought, however, to be diluted with one-half water, particularly the former, which may be readily done by sinking a large tub in the ground in a convenient place, so as to receive the liquid as it is made, mixing as used. When the ground is very wet, do not add more moisture; but, generally speaking, at this season there is a want of it, and when it is applied, pour down in pailfuls over the surface as far as the roots extend, but not against the base of the stem, as many people very ignorantly do. The feeders are not here; they penetrate to a considerable distance, and water applied to the stem does more harm than good, sometimes rotting the trunk.

Never take off any leaves from the branches to "let in light to the fruit," which is another evil practice. The fruit is naturally shaded by the leaves, and so situated, it is always of better quality, provided there is a free circulation of air and overcrowding prevented, which may be done by following the advice above.

COLD GRAPERY.

The same practice of stopping the laterals and ends of the shoots, as described in the foregoing paragraph, will apply here. Maintain the temperature at 90° to 95° with sunshine, and graduate as advised last month. Continue to syringe the vines overhead, if the weather be dry and clear; but if mildew make its appearance, cease to use any water inside the house, and apply the sulphur as directed. Do not admit any more external air than is necessary to reduce the heat, and be careful under the circumstances to have the lower ventilators closed. This course, if adhered to strictly, and persevered in until the fruit begins to color, will most assuredly immediately check, and finally entirely destroy the mildew, while the introduction of any preventive in a liquid state is, to say the least, of a very doubtful utility; all such, which I have known, only increase the evil. See that the outside borders are well mulched, if not already attended to; and

should there be drouth, a good soaking of water in which is dissolved one pound of guano to thirty gallons; or, still better, the diluted drainings of a dung hill will be of material service. As the berries progress in size, lose no time in commencing to cut out the superfluous ones, according to previous directions, and when it is desired to retain them upon the vines after becoming ripe, reduce the quantity of berries, so that they may hang loosely, and the air be enabled to circulate through the bunches.

FORCING-HOUSE.

The only care required hereafter in this department will be the eradication of insects, and shortening-in the extra growth. Let the house remain open at all times, excepting during storms, to preserve the fruit, and prevent the vines from pushing a second growth, which would seriously injure them for another season.

RETARDING-HOUSE.

The same treatment recorded for the Cold Grapery last month will now apply to this, excepting that the thermometer may range some five degrees lower at mid-day, and great care should be exercised in using water. If mildew shows itself, keep the house dry, apply the sulphur, and employ the heating apparatus just sufficient to rarify the air. Lift the upper ventilators at the same time to reduce the temperature.

ASPARAGUS CULTURE.

[The following article was in type for a previous number, but, like many other good things, crowded out. We always prefer articles written in the plain, detailed, straight forward style of this. Mr. Wright's method differs a little from that recommended in our editorial chapter on asparagus, at page 19, (Jan. No.) but a variety of experience and practice is desirable.—ED.]

To the Editor of the American Agriculturist.

This delicious vegetable is easily grown; and by a little labor and expense is soon brought to maturity. Wherever a plant makes its appearance in the garden, if cut down in the fall, well manured and faithfully salted early the next Spring, following it up from year to year, it will root out the grass and weeds around it, and spread in every direction. I have in my garden a productive little patch of this vegetable, which has made its appearance in the thick grass near the roots of an old plum tree. I have never done anything for it but to cut it down in the Fall, and manure it after burning the tops, and in the Spring fork the ground and salt it. It is spreading yearly, and encroaching upon the ground on every hand.

My first asparagus bed in this country was made in the year 1819, after the old-fashioned mode, by digging two or three feet and covering the bottom with old shoes, bones and small flat stones; returning the earth intermixed with a good proportion of good rich manure. The curbing was made of thin smooth stones, some 18 inches in depth, nicely fitted by a stone-mason. This old bed is still somewhat productive, furnishing many a good meal, in the season of it, for my own family, and some for my neighbors. A bed made this way brings the vegetable rapidly forward, and it is ready to cut in three years. Let none of the stalks be cut down during the Summer season, for fly-traps or otherwise; this is injurious. And none should be cut for eating after the first of July.

Some 12 years since I made another small bed on a different plan, which, although requiring a longer time to bring it to perfection, I like better, as it is more easily made, and will improve from year to year for a longer period. This bed was made as I would make a celery bed. I dug about

18 inches, and covered the bottom with six or eight inches of good well-rotted barn-yard manure, gently pressing it down with my hoe to make it more compact. This was covered slightly with the top earth taken from the ditch or bed. Now, to prevent the sides from caving or falling in, I took thin planks, six or eight inches in width, (good substantial fence boards will answer the purpose,) and after rabbeting the sides to fit the curbing planks to their place, I secured the whole by means of stakes driven into the ground and well nailed. The curbing was left a little above the outside surface. The seeds were now planted, about one foot apart each way, two or three seeds to a hill, to prevent a failure. This should be done as early in the Spring as the ground will admit. The bed should be kept clear of weeds the first season by means of the hoe.

After two or three frosts in the Fall, I cut down the little delicate asparagus tops evenly with the surface, leaving them and any other green weeds or vegetables on the ground to rot, covering the whole with a light coat of well-rotted manure.

Early the next Spring, after the frost was fairly out of the ground, I took an old dull-tined fork and forked the ground all over, carefully avoiding the little roots. Now, to assist in keeping down the weeds and save the labor of hoeing, I covered the whole bed slightly over with salt. If the seed is good, the next Fall the bed will be covered with a thrifty growth of asparagus, two or three feet in height; and after two or three frosts it must be cut down again and burnt on the ground. It will now bear a good coat of manure. The next or third Spring it should be carefully forked over as before, and covered with a coat of bulk or packing salt, sufficient to keep out every weed till late in the season, when the asparagus will have run up to seed, and the few weeds which may have sprung up will do little or no injury. This process of cutting and burning the tops in the Fall, on the bed, after a few hard frosts, and richly manuring the bed, and the Spring following forking and salting, must be performed annually.

Some writers have recommended the use of hen dung to enrich an asparagus bed. I have tried that repeatedly, but with no visible good results. For the last five years I have used nothing but a heavy coat of apple-tree leaves on my deep bed. It has worked well. The only inconvenience that I have experienced from the use of this kind of manure, has been that some of the stalks come up a little crooked and out of shape; one Fall and Winter being insufficient for rotting the leaves. But before the close of Summer they are completely rotted, and the bed is light and mellow as an ash heap. The asparagus is growing larger and larger from year to year.

When an asparagus bed is made in front of a building, or board fence, (which is a good position,) it should be at such a distance as not to endanger the same. My first bed, which is six feet in width, I have found, by experience, is about two feet and a half too wide; for, on cutting the asparagus for cooking, I am often under the necessity of treading with one foot on the bed, which is injurious, and frequently a large stalk, just peeping out of the ground, is crushed and spoiled.

A bed three feet and a half wide, and six rods long, (and in that proportion,) should have at least three bushels of bulk or packing salt spread over it every year. In that case there is no trouble of weeding.

Asparagus should always be cooked soon after it is cut. By keeping it only a few hours, unless tightly covered and kept in a cool place, it loses much of its delicate flavor. It should be cut

when five or six inches high, a very little below the surface. All the large stalks, which are not tender and brittle, should be pared with a sharp knife, as we pare the potato, and the whole cut up into little pieces not more than an inch or two long. It is now boiled in a small quantity of water, a little salted. Only sufficient water should be retained to make a rich gravy, by the addition of butter, which is indispensable. To this may be added a few slices of nicely toasted bread, for those who are fond of it.

SERENO WRIGHT.

Granville, O., Feb. 19, 1857.

NOTE.—In a letter dated May 12th, Mr. Wright speaks of fine cuttings from the bed made in 1819!

PINCHING.

The new shoots are now making rapid progress. On young trees, where wood is the great want, you will of course let them run, nipping only those shoots that would mar the symmetry of the tree. But on those of larger growth, where fruit is the one thing needful, you can check the growth of all the shoots except a few leaders, by pinching off the ends. If this is done seasonably, it tends to throw the sap into the formation of fruit buds, for the next year, and there is no waste in the energies of the tree in forming wood, only to be cut off. Early bearing is induced, and a more symmetrical head is formed. This is the proper time to attend to this important part of tree husbandry.



The same practice should be pursued with many of the shrubs and blooming plants of the flower border and lawn, and is extensively practised upon pot plants cultivated in houses. Not unfrequently does the leader itself require pinching back to give the plant a bushy habit, rather than a tall slim growth. The operation is a simple one, as the shoots are of the present season's growth.

BLACK KNOT ON PLUM TREES.

"What is the matter, neighbor, with your plum trees? Many of the limbs are dead, and black excrescences adorn the rest, as if plums were dried on to them."

"I cannot tell anything about it. They keep growing, and where the knots flourish, the plums don't. What is to be done?"

There is a remedy for your trees, and now is the time to apply it. If you will examine the limbs a little more closely, you will find, probably, the bark swelling and bursting in places three, four, six inches in length. If these are neglected, they will make black knots another year. Cut these diseased places out with a sharp knife, and cut clear into the wood, below the diseased part. Remove all the old warts from the small limbs. Follow up this treatment, and if the disease has not made great progress, you will give your trees a new lease of life.

Gather fruits in dry weather, and when the sun shines, and place them as carefully in the basket as if they were glass. The smallest bruise commences a decay

PRUNING.

The middle and latter part of this month is a good time to use the pruning knife in the Orchard and Nursery, and upon shade trees and shrubbery. The sap which ascended in the Spring has been elaborated by the leaves and is now in a proper condition to form woody fibre, which will soon entirely close over the wound, leaving it in a healthy state. It is objected to Summer pruning that the hot sun is liable to crack the wound and admit water into the heart of the tree. The thick foliage will in a great measure, shade the wounds from the sun, and where large limbs are necessarily removed, the exposed surface should be coated with gum shellac dissolved in alcohol to the consistence of paint, or with cloth dipped in melted grafting wax.



We should prefer going into the Orchard with no other pruning instrument than the knife here introduced; that is to say: trees should be so trained and pruned in the nursery and during the first years of Orchard culture, that a knife of this kind will ever afterwards do the business. Have an eye to the full grown tree, and cut out the cross branches to form a moderately open head, both to admit air and afford room for gathering the fruit. If, however, through your own or others' neglect, large limbs require taking off, do it neatly with a saw, not an ax, guarding against splitting when the limb falls, and after paring the wound smoothly, coat with the above mixture. We have often seen trees, especially the taller growing varieties of Cherry

so pruned that stubs six to ten inches long were left for the ostensible purpose of a ladder to climb upon. This is an unsightly and highly injurious practice. The old stub will very soon decay, and the new growth of each year will be "rolled" upon it instead of healing over as it would, were the limb taken off close to the body of the tree. When cut at a distance from the trunk, the stub commences to rot, and often extends to the heart of the tree which in course of time leaves a hole for the rain to enter and hasten the decay.

Many former fruit growers injured, or entirely ruined their trees by excessive pruning at improper seasons. The first settlers, especially from the moist climate of England, were disposed to cut away the branches of large trees, to let in the sun and air which they believed essential to ripen off the fruit, either forgetting, or being ignorant of the fact that in our hot, dry atmosphere, a good supply of foliage is essential to screen the trunk and bodies of the limbs from the burning sun. Especially should the spurs upon young pear trees be left for this purpose; and low branching trees are better on this account. By repeatedly cutting away large branches from the tree, the balance between root and top is destroyed, too much sun strikes upon the unprotected wood, and if, as is too frequently the case, the pruning is done in early Spring, the cut does not sear over sufficiently to check the flow of sap as it ascends the trunk and pushes towards the leaf buds. The energies of the tree are thus sensibly diminished and decay commences at the wounds caused by pruning.

We consider the "leafing out time" as the worst season for pruning, and late Winter, or early Spring as the next most objectionable period. July and August are good months, and the process may very well be extended to October.

BUDDING FRUIT TREES.

As a general thing, farmers, as well as owners of garden plots, when living in the vicinity of well regulated, thrifty nurseries, will find it less troublesome and quite as economical to purchase trees in a suitable state for planting. Others remote from such nurseries, and especially those planting largely, will find it convenient both in point of economy, and for greater confidence in varieties worked under their own eye, to raise their trees and do their own budding.

Budding is preferable to grafting in several respects. The operation can be performed on younger trees, and with more certainty of success than grafting, besides requiring much less time, and furthermore, failures in budding may be grafted the following Spring.

If one year old seedlings were set in nursery rows in the Spring, they will mostly be in proper condition for budding during this and the following months (July and August). The particular period can best be ascertained by trial. If the bark separates readily from the wood the stock is in the right state to receive the bud. Provide a budding knife, (shown below) which is very convenient, though we have budded hundreds of trees with a "jack knife," in olden times. Get some good bass matting (inside bark from bass-wood trees) for strings. Cut off shoots of the present year's growth from those trees you wish to propagate. Remove the leaves growing out from the buds to be taken, but leave half an inch or more of the stem of the leaf, to handle the bud by when inserting it. Keep the shoots bearing the buds in a pail while using, with the butt ends immersed in water. The bass should be cut into strings of about ten or twelve inches in length, and a bundle of them moistened and wrapped in a wet cloth to keep them damp and pliable.

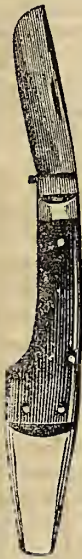


FIG. 3

You are now ready to insert the buds. Select a smooth space on the stock near the ground to receive them. Quince and Peach stocks require budding so low that it is better to first draw away the earth from the trunks with a hoe, that the buds may be inserted as near the roots, as possible. The stocks in such cases will need rubbing off with a woolen rag to prevent the dirt from dulling the knife. The knife here introduced is the old English budding knife, upon one end of which is an ivory or bone appendage called the *haft*. This is used to separate the bark from the wood. Our most expert budders use a similar blade of the best material in a common handle separating the bark with the rounded edge of the blade. Having selected a favorable spot near the root, make a cross cut as seen in figure 3,

and a downward slit from this for an inch or a little more in length, in both cases cutting entirely through the bark. Instead of withdrawing the blade after this last cut, incline the handle a little to the right, and working the blade a little to part the bark from the wood, pass it upward in the same slit. With a little practice, the left hand lip can in this way be readily parted from the wood. Next select a stick of good, well developed buds, and proceed to remove one, by taking the shoot in the left hand with the butt end from you, and inserting the knife one half inch beyond the bud, make a

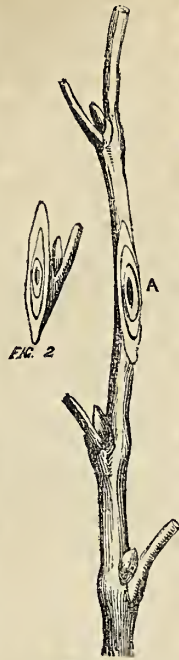


FIG. 4

smooth cut, as seen at A at fig. 2, the blade coming out half to three fourths of an inch upon the other side of the bud. Figure 2. represents the bud taken out. The bud piece here represented is rather too short; it should be at least an inch and a half in length. The English practice is to remove the wood taken out with the bud, but our own nurserymen have of late years discarded it, believing the wood of service to prevent the bud from drying up under our hot Summer sun. With the rounded edge of the knife, separate the other lip at the cross cut and slip the bud down as seen in figure 3, cutting off any of the bark which would extend above the cross cut, so that it will fit neatly in its place. Confine the bud firmly by passing a strip of matting entirely around it, except the crown, as seen in figure 4, opposite.

Some use for binding narrow strips of worn muslin, coated with grafting wax, made more soft and sticky, by adding tallow, lard or oil. Old muslin or cotton will burst by the growth of the tree, and save loosening by hand. The bandages are prepared by applying the wax while hot, with a painter's brush. Tear or cut the cloth into strips half an inch in width, and ten to twelve inches in length, cutting so that the strongest threads of the cloth shall run across the strips and thus burst readily by the growth of the tree. In about two weeks inspect the trees, and rebud any that are much shriveled. If they appear fresh and plump, they are doing well, and the matting may require loosening or even removing if there is a rapid growth, and it has become well established.

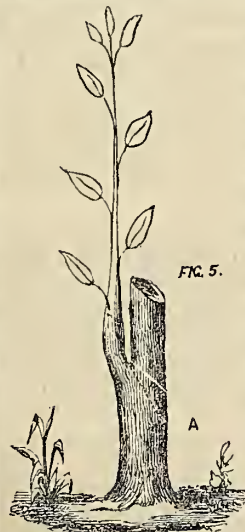


FIG. 5

of the old stock above the bud should be removed with a sharp pruning knife, using great caution not to injure the new shoot. The white line at A, fig. 5, shows the point at which it should be "rounded off." The rapid growth of wood and bark will soon heal this wound, and in a few years the tree will be entirely straight and sound at this point.

HOUSEHOLD MACHINERY.

THE SEWING MACHINE.

[The following communication does not strictly pertain to Agriculture or Horticulture, yet it comes from a highly intelligent source—from one who has no "ax to grind"—and as many of our lady readers have from time to time inquired of us on this very topic, we think the subject not out of place in this journal. In regard to the particular machine referred to we are not prepared to say that it is superior to others costing much less money. We have for some time contemplated introducing the music of the "sewing piano" into our own household, and shall do so as soon as we have time to examine the merits of the different instruments offered to the public, and report upon the result. We are already convinced that sewing and knitting machines can and will soon greatly lessen the toilsome work of the needle, and stop the everlasting knitting which consumes so many precious hours which we desire to see devoted to adorning the inner temple of the mind. Let us have the labor saving machines of various kinds within as well as without the farm house; so far we are a believer in "Womens' Rights."—Ed.]

To the Editor of the American Agriculturist.

Nothing commands so high a price, relatively, as personal labor in New England. Our population in the rural districts is diminishing by emigration. The young, the strong, the bold and enterprising, go to the great West to seek their fortune, to acquire wealth and fame. We cannot blame them. The land there is cheaper, more productive, and more easily tilled. It has been stated by one who pretends to know, that four thousand of the inhabitants of New Hampshire are intending to go to Kansas, and other new Territories and States at the West, this very Spring. The number is probably overstated, still many will go, both men and women, and those, too, who are most in demand at home. What shall we do then? We, who are left in the old nest? Shall we become birds of passage too; and leave our Granite State to revert to its primitive condition? By no means; as the young and industrious leave us, we intend to supply their places, as far as possible, with machinery. Farmers have already diminished their labors very much by the introduction of machinery; but the duties of the household, within doors, remain chiefly as they were. Some washing machines, churns, cheese presses, improved brooms and mops, are the principal contributions which art and science have made to the department of the kitchen. Cradles and baby-jumpers lend their aid to quiet the nursery—"a consummation devoutly to be wished." Time and skill have recently brought into use a more important adjunct still to the housewife. "The song of the shirt" will soon become obsolete; "destitute needle women" will be among the things that were, and the aching fingers and dimmed eyes of the family seamstress will soon be talked of as one of the trials of ancient housewives. Sewing machines are taking the world by storm. They captivate all hearts and brighten all eyes. They discourse to the weary housekeeper most excellent music. They can't be beat. My wife and I debated long about the propriety of buying a sewing machine. Could we afford it? Ah! that's the rub. One hundred and twenty-five dollars for one of Grover & Baker's best machines, makes a large outlay for one family. But what is the interest of that sum? Did not we hire a seamstress three months last year, and board her, to do our family sewing? Oh, yes; that cost us more than the interest on the price of three machines; besides, we cannot now procure a seamstress, for love or money, to do our work. The help cannot be found. That decides the matter. We must have a machine. It is ordered; in fact, Mr. Editor, our sewing machine has actually come! Such a welcome arrival we have not had in twenty years of house

keeping. It has come, and as good fortune would have it, a lady visitor arrived the same day who knew how to use it. It is put to service forthwith. Every member of the household feels competent to use it. Grandmother can drive the needle *scientifically* on the first trial, because, in her youth, she plied the linen wheel, an obsolete piece of furniture in our day. But the sewing machine and the "little wheel," are operated precisely alike. Now, after three days' duration, every member of the family can use the machine. It is whirling as soon as the children are fairly dressed. Sarah made twelve towels before breakfast this morning, and Jane found time between the processes to sew up her doll's dress. The older members of the family are buying cloth by the piece to make up sheets, pillow-cases, and necessary garments for the various members of the family. After this trial of the machine, the ladies all say that it will do the work of twelve seamstresses. Ladies from the neighborhood are dropping in to see this patient and uncomplaining servant, and they all, with one accord, exclaim: "I must have one; I shall save it in health and comfort, even if I have to diminish other expenditures." So the ball, or rather the "spool," is in motion in our quiet village. So far as I can judge, the machine sews with great rapidity, accuracy, neatness and strength. It does not seem liable to get out of order. The apparatus is very simple, and the wheels are so massive as not to be easily broken. It seems to me to be an admirable invention for the saving of labor and trouble; and when personal service is so high and difficult to obtain, its introduction is exceedingly opportune. My wife could not be hired to give it up. She fell in love at sight, and I think the passion will be as lasting as life. In fact, the machine is a universal favorite here, and I like the idea exceedingly of having all our sewing done by a servant that never *talks*—only sings

"Stitch, stitch, stitch."

It neither brings nor carries news; never gossips; never tells tales. Its constant refrain is "work, work, work;" and when its busy hum is hushed, its very silence is eloquent of service done, of task performed, leaving nimble fingers and bright eyes to the ladies. AGRICOLA.

New-Hampshire, April 10, 1857.

Annals—Transplanting.

In our June number we gave a chapter on "Flowers," with directions for planting, &c. If sown at the proper season, many annuals are now ready to transplant from those borders where they came up too thickly, to vacant spaces and where failures have occurred.

It may be remarked that some kinds will not bear the operation unless performed in a careful manner and under favorable circumstances, such as cloudy weather, careful lifting and separation of the plant, watering, shading, &c.; others, owing to their constitutional vigor and hardness, speedily recover from the shock, and make a rapid growth; while others, again, though not many, are almost sure to die, no matter how carefully the operation may be performed. These last should be planted at once where they are to remain, and thinned out when they come up too thick.

When the plants are sufficiently advanced in growth to be in proper condition for transplanting, say when they have made two or three leaves in addition to the seed leaf, enter the trowel a couple of inches from the plants, and some four or five inches deep, giving it a slanting direction toward the plants; press your fingers against the soil on the side nearest the plants, and withdraw the trowel; this will prevent the earth from breaking. Next enter the trowel on the opposite side, slanting toward the plants, as before; press the handle of the trowel down as you would a lever, and a mass of plants will be lifted in the same way. Separate them by crumbling down the ball of earth with the thumb and fingers, but gently, so as not to injure the small fibrous roots; then take the plants, one at a time, by a leaf, and they will part readily. Select the places where you wish to plant, loosen and pulverize the earth, make a hole of sufficient size, and insert the plant up to the seed leaf, drawing the earth about it

and press gently to secure it in its place. If the weather is dry, watering will be necessary, shading the plants for a few days by placing over them a piece of paper, or, better still, an inverted flower pot, always removing the covering at night and during cloudy and rainy weather.

How to Set Cabbage Plants.

It is now time to put out the second crop of cabbage. Under a burning sun, it is sometimes difficult to make the young plants live. The rainy day, so much coveted for this purpose, is sometimes a stranger for two or three weeks, and much time is lost upon the crop. With proper care the plants may be put out and live, even in dry weather. The best time, if a rainy day can not be had, is just at evening. The seed bed from which the plants are to be taken, should be thoroughly saturated with water to the depth of three or four inches. Then by taking up the plants gently with a small spade or trowel, a ball of earth will adhere to each plant, and if put out carefully they will live and soon become established. They should be watered as soon as set out to settle the dirt around the roots. If the sun comes out very hot it is a good plan to put a green leaf of pie plant, burdock or cabbage, over them by day, removing it at night. By managing in this way, ninety-nine in a hundred of good plants will live. Never set cabbages in ground manured with the contents of the pig sty.

For the American Agriculturist.

Rape Culture.

An article under this head, in the June number, induces me to write. I have an acre of Rape under cultivation, sown and planted last summer and fall, in different ways, for the purpose of testing the practicability of producing the seed for oil. The enormous prices demanded here for every description of lamp oil, and the low price of land of a deep and rich soil, seem to call loudly for a thorough trial of the merits of this plant. The present appearance of my crop, however, does not justify the recommendation of its general culture, nor yet its condemnation; further experiments only can decide this.

Up to the warm weather in February the plants looked well, but since that time, about three fourths of them have been killed by the alternate freezing and thawing. Those which did winter it through are in a very flourishing condition now, beginning to blossom. Let us "try, try again."

I have read that even in its most favored country it is an *uncertain* crop and that *three good crops* out of *five*, are all that is expected, and will pay well. From the little I have seen of it, I do not apprehend that the "labor" required will be any hindrance to its general culture.

Crawford Co., Pa. FRANCIS SCHREINER.

Read the Chapters on Draining—Geology.

We hope no one will omit to read these articles from beginning to end, on account of their length. To make the subject as plain as possible to even the youngest reader of the Agriculturist, and also as a matter of interest, as well as profit, we have discussed somewhat more minutely than we at first intended, a few of the elements of *Geology*, bearing upon the formation of soils. We consider the science of Geology so intimately connected with a knowledge of the soil we cultivate that we are half inclined to give a few elementary chapters on this topic and may do so at the beginning of our next volume, if not before. While we claim that practice—*experience*—is the best present guide to successful soil culture, we are yet convinced that a little knowledge of chemistry, geology and meteorology, will not only assist the practical man in his operations, but also add vastly to his pleasure while pursuing his wearisome labors.

The Editor Absent.

The Conducting Editor of the *Agriculturist* (Mr. Judd) has been absent on a Western tour of observation and study, since the early part of June, and will not return until about the middle of this month (July). Our readers will please take this as an excuse for any defects they may find in the closing pages of this number which has gone to press without his usual supervision. Several communications and private letters must also remain unattended to at present.

OFFICE ASSISTANTS.

Acknowledgement of Seeds.

We have received a large variety of seeds from correspondents and subscribers in all parts of the country, and take this method of returning our thanks for them, as we are unable to reply to each individually. We are giving most of them a fair trial upon "experimental grounds," and those which prove valuable will come into the free distribution next season. Our policy is to disseminate choice seeds as we would knowledge, instead of confining them to localities where first introduced, or allowing them to be monopolized by unscrupulous speculators.

STATE AGRICULTURAL EXHIBITIONS 1857.

Name.	Where Held.	Date.
United States.....	Louisville, Ky.....	Sept. 1—5
American Institute.....	New-York.....	12
Ohio.....	Cincinnati.....	" 15—18
Canada East.....	Montreal.....	" 16—18
Illinois.....	Peoria.....	" 21—24
N. Western Fruit-Grower's Ass'n, Alton, Ill.....		" 29
Maine.....	Bangor.....	" 29 Oct. 2
Pennsylvania.....		" 29 " 2
Wisconsin.....	Janesville.....	" 29 " 2
Canada West.....	Brantford.....	" 29 " 2
New-Jersey.....	New-Brunswick.....	" 29 " 2
Vermont.....	Montpelier.....	" 30 " 2
Indiana.....	Indianapolis.....	Oct. 4—10
New-York.....	Buffalo.....	" 6—9
Iowa.....	Muscatoe.....	" 6—9
New-Hampshire.....	Concord.....	" 7—9
Kentucky.....	Henderson.....	" 12—16
Connecticut.....	Bridgeport.....	" 13—16
East Tennessee.....	Knoxville.....	" 20—23
North Carolina.....	Raleigh.....	" 20—23
Massachusetts.....	Boston.....	" 20—23
Maryland.....	Baltimore.....	" 21—25
Alabama.....	Montgomery.....	" 27—30
West Tennessee.....	Jackson.....	" 27—30
Virginia.....		" 28—31
South Carolina.....	Columbia.....	Nov. 10—12

COUNTY FAIRS.

MAINE.		
South Kennebec.....	Gardiner.....	Sept. 23—25
Franklin.....	Framington Centre.....	Oct. 1—2
North Franklin.....	Strong.....	" 6—7
Androscoggin.....	Lewiston.....	" 6—8
West Somerset.....	Madison Bridge.....	" 7—8
Lincoln.....	Waldoboro.....	" 13—15
East Somerset.....	Hartland.....	" 14—15

NEW-HAMPSHIRE.		
Sullivan.....	Charleston.....	Sept. 23—24
Hillsborough.....	Milford.....	" 30
Rockingham.....	Exeter.....	Oct. 1—2

VERMONT.		
Champlain.....	Vergennes.....	Sept. 17—18
Franklin.....	St. Albans.....	" 23—24
Orange.....	Chelsea.....	" 23—24

MASSACHUSETTS.		
Essex.....	Newburyport.....	Sept. 30—Oct. 1

CONNECTICUT.		
Windham.....	Brooklyn.....	Sept. 16—17

NEW-YORK.		
Saratoga.....	Mechanicsville.....	" 15—17
Jefferson.....	Watertown.....	" 16—17
St. Lawrence.....	Canton.....	" 16—18
Wayne.....	Lyons.....	" 16—18
Monroe.....	Rochester.....	" 21—23
Franklin.....	Malone.....	" 23—25
Queens.....	Jamaica.....	" 24
Livingston.....	Geneseo.....	" 24—25
Orleans.....	Albion.....	Oct. 1—2
Palmyra Union.....	Palmyra.....	" 14—16

PENNSYLVANIA.		
Delaware.....		Sept. 17—19

MARYLAND.		
Washington.....	Hagerstown.....	Oct. 13—16

KENTUCKY.		
Harrison.....	Cynthiana.....	Aug. 25—28
Kentucky Central.....	Danville.....	Sept. 15—
Bourbon.....	Paris.....	" 22—25
Logan.....	Russellville.....	Oct. 6—8

OHIO.		
Fayette.....	Washington.....	Sept. 8—10
Clermont.....	Olive Branch.....	" 8—11
Hamilton.....	Carthage.....	" 8—11
Warren.....	Lebanon.....	" 9—11
Geauga (free).....	Claridon.....	" 16—18
Trumbull.....	Warren.....	" 22—24
Darke.....	Greenville.....	" 23—25
Stark.....	Canton.....	" 23—25
Columbiana.....	New-Lisbon.....	" 28—30
Portage.....	Ravenna.....	" 28—30

INDIANA.		
Butler.....	Hamilton.....	Sept. 29 Oct 1
Ashtabula.....	Jefferson.....	" 30 " 1
Adams.....	West Union.....	" 29 " 2
Muskingum.....	Zanesville.....	" 30 " 2
Belmont.....	St. Clairsville.....	" 30 " 2
Jefferson.....	Steubenville.....	" 30 " 2
Tuscarawas.....	New-Philadelphia.....	" 30 " 2
Geauga.....	Burton.....	" 30 " 2
Lake.....	Painesville.....	" 30 " 2

MARYSVILLE.		
Union.....	Marysville.....	Oct. 1—2

PUTNAM.		
Putnam.....	Kalida.....	" 1—2

WAYNE.		
Wayne.....	Wooster.....	" 1—3

WYANDOT.		
Wyandot.....	Upper Sandusky.....	" 1—3

OTTAWA.		
Ottawa.....	Port Clinton.....	" 6—8

LORAIN.		
Lorain.....	Elyria.....	" 6—8

HARRISON.		
Harrison.....	Cadiz.....	" 6—9

LICKING.		
Licking.....	Newark.....	" 7—8

WASHINGTON.		
Washington.....	Marietta.....	" 7—9
Clark.....	Springfield.....	" 7—9
Guernsey.....	Cambridge.....	" 8—9

INDIANA.		
Henry.....	New-Castle.....	Sept. 23—25

ILLINOIS.		
Morgan.....	Jacksonville.....	Sept. 8—11
Mercer.....		" 29 Oct. 1
Pike.....	Pittsfield.....	Oct. 14—15

MISSOURI.		
Franklin.....	Union.....	Oct. 8—10

Above we give a list of all Exhibitions of which we have received authentic information. We wish to make the list much more extensive and complete next month, and solicit reports from every county in the country.

FOR THE BOYS AND GIRLS.

(The whole of our paper is designed for younger as well as older people; the following is for the Boys and Girls only.)

Answers to Problems 1 and 2. We have received an unexpectedly large number of answers to each of the problems given on page 138—a whole drawer full of them, and with a single exception the answers were all correct and some very well executed drawings have been furnished, showing more artistic skill than we had credited to so many of our younger readers. We give engraving's of the first answer received. Several received afterwards were even better than this. Will not some of our ingenious young readers send original contributions for this column.



ANSWER TO PROBLEM I, PAGE 138.

My ground is divided, my tenants at work,
And he'll profit most who does not labor shirk,
So let them toil on till cabbages rise,
And carrots and turnips to gladden their eyes,
Gooseberries and Currants, and Raspberries too,
Shall amply repay the work they may do.



ANSWER TO PROBLEM II, PAGE 138.

Here's my thanks my young friends, for your kindly aid,
Twenty two answers to my questions were made
By young "Agriculturists," who by thousands are counted,
The trouble with my lodgers is entirely surmounted.
They have all gone to work with a hearty good will,
Each one his own plot with vegetables will fill,
Save the ground where the trees grow, which they will
hoe with much care,
And if you'll call round in Autumn the fruit they will
share.

WILLIAM.

Correct answers have also been received from: "An Old Boy," 72 years old Stamford, Ct.; Jas. L. Gerrish, N. H.; D. W. Gore, Bradford Co., Pa.; Merrill Foote, Lancaster; J. D. P., Belvidere; A. Henry, City; Geo. E. Steele, Kingsville; M. S. Osgood, W., N. Y.; F. M. S. P., N. Y.; J. S. B., L. I.; G. W. Barnard, Ct.; A Subscriber, La Salle; R. W. Coy, N. Y.; D. M. Goodrich, Owego; J. T. Briggs, F., Vt.; J. R. Dowling, M., Ohio; K., Union Co., N. J.; P. S.; Franklin Briggs, W., N. Y.; E. J. W., Hartford Co., Pa.; John Fleming, R., N. J.; D. W. Guy, Oxford; L. W. N., Jr., C., N. H.; Lester Winfield, G. M., N. Y.; Samuel J. Beatty, Washington Co., Pa.; Alexander H. McKelvy, Warren Co., Pa.; C. S. Pillsbury, N. H.; Walter A. Carpenter, Min. Ter.; Mary Jane Esson, Canada West, &c.

NEW PROBLEMS.

- PROBLEM 3.—How can 10 trees be planted so that there shall be 5 rows and 4 trees in each row?
- PROBLEM 4.—How can 12 trees be planted so as to have 6 rows, and 4 trees in each row?
- PROBLEM 5.—How can 19 trees be planted so as to have 9 rows, and yet 5 trees in each row?
- PROBLEM 6.—How can 27 trees be planted so as to have 7 rows, and 6 trees in each row?

What is Stereotyping?

A boy reader, "out West," writes that the *Agriculturist* is stereotyped, "but having been brought up almost in the Western woods, he does not understand what the word means, and wishes the editor would explain it to him." He also says he frequently reads of "stereotyped farming," and does not understand the connection of farming printing implied in using the same word for both. He begs us "to excuse the simplicity of the question as he is very young." Certainly we will, and it will give us great pleasure to answer, in this column, a multitude of questions from Boys and Girls, though, as stated above, we are trying to write "all the articles so plainly that our young readers can all understand and be interested in every page.

Stereotyped, means made solid or fixed. Thus, in ordinary printing every letter is cast upon the end of a bit of

type metal about an inch in length. These type letters, are set together in proper order to form the words and lines, with little shorter pieces of metal between the words. When the type is all put together for a page, it is fastened into an iron frame, called a *chase*, and several of these pages are put together in what is called a *form*. They are then placed upon a printing press, when a sheet of white paper is laid on and a heavy plate pressed upon it, or a roller run over it, which presses down the sheet and causes it to take up a little ink previously put upon the types.

But the heavy press sometimes knocks some of the letters out of place, and where a great many sheets are printed the face, or head of the type, gets worn down, as the same letters are used in successive numbers of a paper. Further, when the types are once taken apart, they must all be set up again, if more copies are wanted. These difficulties are all avoided by stereotyping the pages. Thus, when a page of types is all ready to be printed from, the stereotyper takes a thin mortar, made of burned plaster of Paris and water, and spreads a coat of it over the face of the type. This soon hardens, and is then lifted off, and shows upon its lower side an exact impression or mold of the whole page, including all the letters, dots, punctuation marks, &c. After thoroughly drying this plaster mould, a thin layer of melted type metal is cast upon it. When this cools and is taken off, it shows an exact face of letters just like the original page of types, the lower ends of the letters being all joined to the thin plate of metal, so that none of them can be moved out of place in printing from them. There are, of course, 24 such plates for each number of a paper like this—one for each page. The pressman lays these plates upon wooden blocks, about an inch thick, and prints from them instead of from the loose types. When he has printed all the sheets wanted at one time, he packs the plates away in a box until more copies are wanted.

You thus see that by keeping these plates, say of this present July number, we can at any time, even a dozen or twenty years hence, get them out of the box and print more copies to supply any call for back numbers. We are now sorry we did not keep stereotype plates of former volumes, as a great many of them are called for, and we cannot hereafter print any of the first fifteen volumes without setting up all the types again. But when you look at this page, or any of this or subsequent volumes, you can always think that there is packed away in a box in a fire-proof vault, under one of the streets of this city, a thin plate of metal, having upon one of its sides all the letters, figures or pictures, &c., upon the page you are reading, and that the printer could, in half an hour, get out a plate and print you a new page without stopping to arrange the types.

"Stereotyped farming," is that which, like the type in the plate, is fixed, and is always in the same style—with no improvement.

Electrotype plates are similar to stereotype plates, only they have a thin coat of copper upon the face of the letters. Instead of casting the copper in the mold by melting it, it is first dissolved in an acid to form blue vitriol, and then it is cast down upon the mold by the electricity from an electric battery. Hence, the name *electro-type*. The copper-face types wear longer, and print a little better.

OUR BASKET

Into which are thrown all sorts of paragraphs—such as: NOTES and REPLIES to CORRESPONDENTS, with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources. The printer always have access to this Basket when they "have nothing else to do."

Improved Tools and Farming.—S. H. C., of Penn., wishes to know if the tools, to which we alluded in our January issue, will work well in somewhat stony ground. He also speaks of his success, or want of it in farming, and of his edification under our past instructions. As his case will answer for thousands of Eastern farmers, we quote his own language. "I have taken the *Agriculturist* for two or three years, and aside from the pleasure of reading it, I am doubtful if I have received any considerable benefit. In the manner of cultivation, when possible, I try to approximate its directions, when clearly expressed, but I continue to raise 25 to 30 bushels of corn, and about as many oats to the acre. True I have not commenced ditching, for I owe and have not got the tin. So I keep on reeding and working hoping "something will turn up," though strongly of opinion that I had better sell here, and find a prairie farm, West. For, taking my own experience in contrast with nearly every experiment you record, I am no farmer at all, and probably never shall be, for at the rate I am gaining property now, it will be time to die long before I shall be able to manage one hundred acres as you would call well; yet I get along about as well as any of my neighbors, and a

good deal better than many, though every dollar's worth of produce costs me one dollar twenty-five cents in labor, taking wages I can get in other business as a basis."

REMARKS—This is the old story touchingly told of the skinning system—little manure on much land—small crops growing "smaller by degrees and beautifully less;"—an empty purse, and emigration. Farming must generally be unprofitable, where no more than thirty bushels of corn to the acre are produced, and it increases in profitability, not as one extends his acres, but as he increases the amount of production per acre. Evidently our friend has not yet full faith in the principles of husbandry we advocate, and so does not practice what we preach. He probably has run in debt for a much larger quantity of land than he has any use for, and has one half or more of his borrowed capital, where he has to pay interest and taxes, without getting a cent in return. He wants either less land, or more capital to work what he now has. He should either sell a part to raise the requisite amount, or hire it, if possible. He wants more manure, more labor and bigger crops. He should first endeavor to raise sixty bushels of corn on one acre, instead of taking two for it. Put on manure enough to do that, if it takes all in the yard and stables.

He can not be careful enough of the resources of the farm for making manures. Are the cattle all stabled through the winter, and during nights in summer, to save both solid and liquid manure? Are there no muck mines within reach? Twenty cords of manure may be made every year for every horse, cow or ox, upon the farm, and this spread upon an acre of ground, and plowed in six or eight inches deep, will raise the production above the old stereotyped crop of thirty bushels to the acre.

The tools that we referred to were the Potato Digger of Pitkin & Brothers, Manchester, Ct., which is warranted to dig with a team as fast as fifteen men can pick up, and the Harrow, Seed Planter and Horse Hoe of D. W. Shares, Hamden, Ct., all of which took the 1st Premium in their several classes at the State Fair last October. They are probably on sale at the Agricultural Warehouses in Philadelphia, or if they are not, they soon will be. For price and place of sale our correspondent can communicate with the above parties.

Trenching for Vineyards.—B. Simmons, of Ohio, furnishes the following, in contradiction of the commonly received opinion, that trenching and draining are necessary: "Possibly experience may dissipate this very dry vineyard hobby. To the facts. Mr. J. S. Lowry, of Berlin Heights, in this County, has a vineyard on a flatish plot of ground at the foot of what, for want of higher elevations, is called the *mountain*, it being some 150 feet high. It is on the northwest side, and where a small brooklet flows out over the low land at the head of the plain, keeping the soil saturated with water during the Spring, and sometimes in the Summer. The soil is a black clay loam, about one foot deep, and based on a subsoil of sand rock, impervious alike to plows and water; and he uses no drainage except slight surface drains. Mr. Lowry, in other respects, takes good orthodox care of his vines, and has succeeded in producing as fine grapes and as good wine as any other cultivator. The vineyards of Messrs. G. B. Hyde and J. S. Petton, on the lake shore, in this township, are extensive, and upon the black unctious clay loam of this region, where the water stands on the surface at all times during wet weather. Slight surface drains only are used, and no subsoiling or trenching; yet their vines are flourishing, their wines almost uniformly good, and their table grapes of the first quality, and wine ditto. The varieties are Isabella and Catawba.

It is a well known fact that nature plants all her vines in a swamp or muck land. Is she deceived? Does not the experiment of these gentlemen show that she is not?"

REMARKS—Nature has a different object in view in vine growing from man. She wants wood and foliage; man wants fruit. It is, therefore, proper that man should prepare both the soil and the vines for fruit-bearing rather than for making wood. Grape vines will grow in almost any good corn ground and yield some fruit. The trenching and draining is to make the vines bear more abundantly, and to pay for the extra labor and leave a profit. This, we think, is the better course in the long run. Trenching and draining do not make the soil very dry, as our correspondent supposes, but furnish moisture in equitable supply through the season. See articles on draining, in the last and this number, on this point.

Using Mowing Machines.—T. Y., of Ulster Co., writes: "One very important requisite in using a mower, is to keep the knives free and sharp, in order to favor the team and machine. I have cut from 15 to 20 acres in one day with one of Allen's mowers. My manner of using the mower is, to go around the lot with square corners, using the file at one of the four corners every bout, as long as my plot of grass contains not less than five acres, and as often as to be equal to going around five acres thereafter, or say once in 30 or 40 rods. I throw the mower out of gear, and the turning gives the horses a

full breath, and the corner filing a few moments breath. No time is lost, but labor is saved for the mower and team. It only requires one or two rubs, with the file rightly used, to put the mower in good order when regularly attended to. The teams will do more and better work in the course of the season, used in this way, and the machines last much longer. Allowing the horses to stop at the corners, is to them like closing the steamer's valve a few moments while landing passengers; they start willingly and freely.

Wheat Insects—Red Weevil.—Daniel Bates, Trumbull Co., Ohio. By "Red weevil," you probably mean the *MIDGE* or Wheat Gnat produced by the clear-winged Wheat-Fly (*Cecidomya Tritici*) which has produced the chief insect destruction of the Wheat crop in Western New-York, Ohio, &c., during the past few years. The fly appears over the fields in great numbers on cloudy days, and mornings and evening during the last of June and first of July, laying its eggs upon *soft grain only*. These hatch out the orange-colored maggots. A remedy against their ravages would be worth millions to the country, but so far we are without a certain remedy. The best partial preventives are sowing early kinds of Wheat, and hastening forward the crop by stimulating manures, to get the grain hardened before the appearance of the fly. Dusting slaked lime over the fields when damp, and sowing sulphur freely over the Wheat, have sometimes been a little advantageous. The Weevil proper, and the various species of Moths, attack only the ripe grain. The Hessian fly and the Chintz or Chinck bug operate upon the green stalks. This subject is treated more at length in Vol. XV, page 244.

Bugs and Cucumbers.—Mr. Bergen of Long-Island, recently stated that some farmer's in his neighborhood plant as many as ten acres each of cucumbers, and that the way they save them from bugs, is to use plenty of seed at first and then at four or five successive periods they plant on a new side of the hill, a lot more of seed. This supplies an abundance of young plants for the bugs to feed on, and they leave the stronger growing plants untouched. When well out of the way of bugs the surplus plants are dug up with the hoe. This is a similar plan to one we have recommended strongly for years past, and have found it successful in practice. See *Agriculturist* Vol. XII, page 88.

"Angle Worms."—A Lad of Fourteen," at Kingsville, Ohio, says: "Angle worms are doing much damage in our garden, particularly around the rhubarb; they seem to take the riciness out of the ground. Can they be destroyed?"

REMARKS.—They do no harm, and carry nothing away. They rather enrich the ground than otherwise. We have counted 35 on a single square rod in our garden this season. The centipedes or "thousand legged worms," are however, a nuisance, as they attack the plants. They, too, greatly abound, and nothing sends them off but a larger dose of salt than it is convenient or profitable to apply.

Ruta bagas Extra.—A Correspondent writes: To-day (June 18th) we have taken a lot of ruta baga seed ($\frac{1}{2}$ lb. to $\frac{1}{2}$ acre) and sown it broadcast *all over* our garden, dropping it thickly wherever there is likely to be a single foot of spare room, as for example, between the rows of early corn and potatoes, peas, &c. The hoeing is now going on which will cover the seed; and hereafter the growing young plants will be cut up with the hoe like weeds wherever they are in the way, but left to grow where there is room for a single turnip. A useful plant may as well occupy the ground as a useless weed, and in Autumn we shall most likely gather several bushels of turnips for the bare cost of the seed, or 25 cents. This plan may be pursued not only in gardens but in fields, at any time in June, July, and even into September. After, say July 15, some of the later varieties of turnips should be substituted for ruta bagas.

Sowing Corn for Fodder.—J. Plocker, of Wanshara County, Wis., writes strongly in favor of sowing four or five bushels of corn to be cut up for fodder. He cuts up the stalks after threshing with a cradle, and after drying packs them away in alternate layers with dry straw. The cattle eat both stalks and straw, which he justly remarks is a much better way than to burn the straw in the Spring to make room for the plow. Had this been extensively done last year, we should not have heard of thousands of cattle perishing at the West for want of food.

Salsify.—M. E. M., wishes a recipe for pickling this vegetable. If any subscriber has one will he or she please forward it for publication. We are not aware of its being pickled, nor do we think it particularly desirable, as, with proper care, it may be had in a fresh state from September till June.

Artificial Honey.—J. P. P., of Randolph Co., Me. Don't send your dollar for any secret recipe for making artificial honey—nor for any other secret pre-

scription; 999 in a 1,000 of them are humbugs. Save your money to buy a genuine honey manufactory—a good swarm of bees. "A subscriber" writes us that "he invested a dollar and got the following: Dissolve 20 lbs. of coarse sugar in 3 quarts of warm water. Stir into it one-fifth ounce of cream of tartar first dissolved in a little water, and also five or six pounds of good honey, and half a teaspoonful of essence of peppermint. Boil the whole slowly for 12 minutes, stirring it all the time, and your 'first-rate' honey is complete—30 lbs. of it." Any one can try this who has a notion that way. We presume it is as good as any recipe offered at any price.

Dielytra Spectabilis—NAMING—HARDINESS.—Our valued correspondent, N. Goodsell, of New Haven, N. Y., asks if our printer did not make a mistake, on page 136, in the name of this plant, and suggests that its true name is "*Diclytra*." We believe not. The word is derived from two Greek roots,—*dis* and *elytron*, or *elutron*. "*Diclytra*" appears in one or two of the older botanical text books, but it was doubtless a typographical error *there*, the *c* having been accidentally substituted for *e*—a very common mistake, as printers well know, and one which has caused some amusing blunders. The *Dielytra spectabilis* is perfectly hardy, and it should be found in every garden, even the smallest. The native species, *Dielytra eximia*, resembles the *D. spectabilis* somewhat, but is much less beautiful. Mr. Goodsell is right in his suggestions that Generic names of plants should commence with Capitals, and specific names with small letters, ("lower case," as the printers say,) except when the specific name is derived from a proper name.

Bee Moths.—"A Subscriber" of Tazewell County, Ill., says he is in a fine country for bees, but they can not raise them successfully because of the "Bee-Miller," and inquires what they can do. He and others will find a series of articles on bees in our successive numbers. As a direct answer, however, we will here say:

(1) *Get acquainted* with the moth and the worm, so as to know how they look. The female moth is larger than the male, and quite different, of a dirty brown color, keeping still all day long and looking much like a sliver of an old board. Toward evening she may be found flitting around the entrance of the hive. She is the author of mischief in laying her eggs within the hive, and her progeny of worms devour and file the comb. (2) *Put your hand on every moth* you see around the hive. (3) Set dishes of sweetened water and vinegar among your hives, and every morning kill the moths entrapped in them by night. (4) *Disturb moth-proof hives* for which *great claims* are made; but take care to have all hives made with tight joints, and with no open seams outside or inside. (5) If the moths get the upper hand in a weak hive, expel the bees, and join them to another stock. (6) Keep no feeble swarms or abandoned sheets of comb as *nurseries* for the worms. (7) Lift the hives at times, and with a sharp stick crush any worms that may be found in the corners, or cracks, or on the bottom board.

Covering Bee Hives.—"A Subscriber" asks why it was advised in the May number that a hive of bees should be inverted, if it was to be carried some distance. He would "remove it carefully from its place, right side up, set it on a cloth or blanket, and carry it to the place of destination." The danger would be that he would smother the bees, if the cloth fitted tightly to the hive and the hive were placed on a wagon or wheel-barrow. The great object of inverting is to insure ventilation. It may be done without difficulty in Spring, not so well in Summer. *

Chestnut and Walnut.—To C. P., of Illinois. The American Chestnut is a fine ornamental tree, to say nothing of abundant crops of sweet nutritious fruit. It flourishes on a variety of soil, and grows spontaneously over a wide territory. It has been cultivated as far north as Maine with success. A light soil suits it best, and its favorite localities are upon high grounds, hill and mountain sides. The English Walnut, (*Juglans regia*), better known as the Madeira nut, is quite extensively cultivated by nurserymen. It makes a noble ornamental tree, bears a good fruit, and is perfectly hardy in this latitude. Like the chestnut, it does best on a dry rolling soil. Both would doubtless flourish at the West, especially upon elevated lands.

Apple Substitutes.—M. Joslyn, of Cedar Co., Iowa, asks "if we know of a more acceptable substitute for apples as table sauce, than the tomato, gooseberry, raspberry, strawberry, rhubarb, currant, &c.?" These are all excellent, particularly the strawberry in its season, and out of season, if well preserved, uncooked in sealed cans. We would not "substitute" these for the apple, but have them all, and the apples too.

Apples and Pears, Hardy.—J. G., of Springfield, O., says the last two winters have been very severe upon fruit trees, and wishes a short list of Apples and Pears which will prove hardy in his vicinity. The following are both hardy and valuable.

Early Apples—Early Harvest, Early Bough, (sweet), Red Astrachan, William's Favorite, Benoni and Grayenstein. Fall varieties—Alexander, Fall Pippin, Jersey Sweeting, Monmouth Pippin, Porter and Rambo. Winter varieties—Baldwin, Danver's Winter Sweet, Jonathan, Newtown Spitzenburg, Rhode Island Greening, Yellow Belleflower, Newtown Pippin and Black Giffi flower.

Summer Pears—Bartlett, Bloodgood, Madeleine, Louise Bonne de Jersey, Onondaga, Rostiezer and Tyson. Autumn Varieties—Beurré Diel, Buffum, Dix, Fondante d'Automne, Flemish Beauty, Onondaga and Seckel. Winter Varieties—Easter Beurré, Glout Morceau, Lawrence, Vicar of Winkfield and Winter Nellis.

This list might be extended much further, but the above are sufficient for ordinary culture.

Apples in Maine.—A Maine correspondent says that "just to hit Brother Bidwell a little, 'a poor shack in luck' on a small scale, away 'Down East' close to the jumping-off place," last year sold \$505 worth of apples from less than 1 $\frac{1}{2}$ acres, and that, too, though he made a bad bargain in selling them at \$2 25 per barrel.

Naming Grapes.—C. Dikeman, Scott County, Iowa. The "Charter Oak," was so called from the famous old Charter Oak, of Hartford, but is a libel upon the name, as the grape is not worth growing. The "Diana Grape," was named after its originator, Mrs. Diana Crehore, of Boston. The "Isabella," also originated by a lady, is so called in honor of Mrs. Isabella Gibbs. The "Rebecca," the most recently introduced is named after Mrs. Rebecca Peake, of Hudson, N. Y., on whose ground the first vine of this variety was discovered.

Eggs—Pickle for.—W. S. T., of Hampden Co., Mass., will find the following a good pickle. Eggs are now being taken from it in a sound state which were put away last season. Dissolve 4 quarts unslacked lime and 4 quarts salt in 8 gallons of water and pour this liquid upon the eggs, packed in a water tight barrel or keg.

Gapes in Chickens.—J. M., writing from Onondaga Co., N. Y., says he has used the following preventive with complete success for a series of years. "Mix a little fresh ground coffee with corn meal and feed in the morning three times a week."

Watering Flowers.—To J. G. After the recent superabundant natural watering, flowers will need but a little for a long time. Water only when the ground becomes dry. Evening is the best time to apply it.

Brooklyn Horticultural Society.—For membership, &c., apply to either of the following officers: J. W. Degrauw, President; J. E. Rauch, Cor. Sec.; Jas. Parks, Rec. Sec.; M. Brandegee, Treasurer.

Lightning—Balls on Cattle's Horns.—A. R. Vail, of Dutchess Co., N. Y., inquires if the metallic balls on cattle's horns attract lightning, and thus endanger the animals. We think not. A round knob set on a poor conductor of electricity like horn can have little or no effect of this kind. The animals referred to would have been just as likely to have been killed without the "brass ornaments."

Whale Oil Soap.—In speaking of this mixture as a destroyer of the cherry slug on page 135 of last month's *Agriculturist*, an error occurred in the quantity of water to be used. It should be one pound of soap to seven and a half gallons of water. If much stronger than this, the plants will be injured by the application.

Subsoil Plow.—D. W. Wilson, of Clinton. The ordinary subsoil plow in common use is the best. Mapes' Improved Subsoil or Mole Plow, so called, we do not consider valuable. There will doubtless be improvements in subsoil plows ere long, but the one in general use is very good. They cost from \$5 to \$9, and from that upward according to the size, "rigging," &c.

Breeding Colts.—A. L. Sayre, of this city, in a recent note, says: "Having had several discussions with farmers who are opposed to breeding colts on account of its unprofitableness, I wish to refer the matter to your columns. I would like a statement of all expenses of raising a colt of the best blood, say to the age of four years." This is an interesting question, and instead of answering it directly we will solicit the opinions, or rather experience of our readers on what we will call the "Colt Question." Who will respond?

Hedge Fences.—Jas. H. McNall, of Washington Co., Pa., writes: "I see in the *Agriculturist*, that it is necessary to leave a strip of land twenty feet in width on each side of the Osage Orange hedge fence. If it will do well by leaving that amount, people should be satisfied, for that is little loss of ground to what we sustain by keeping up timber land to make rail fences, and less than is shaded by the timber that is generally grown around the farm. Besides it would cost less to keep up the hedge fence when once made. It appears to me that if the hedge plants were set out without having the centre

roots cut they would bear more breaking of the side roots. Would it not do as well to drill the seed as set out the plants where the fence is intended to stand."

Mignonette.—S. F. A. This plant is an herbaceous annual and no treatment that we are aware of can materially alter its habit. We do not think it can be grown to a woody shrub. It is well suited to pot culture through the winter when sown in August or September. A new variety has been cultivated for a year or two past in England of a larger growth, but resembling the common "odorata" in habit, growth, &c.

Crows.—J. F., of N. J., says the crows were in the habit of robbing his hens' nests which suggested the idea of an infusion of arsenic inside the egg. The result was that dead crows were found in the vicinity. This specific need not be confined to crows. Rats, skunks, &c., should be treated in the same way.

Budding and Grafting.—G. S., of Augusta, Ill., will find the information he desires on budding in the present number. Grafting will be discussed at the appropriate season. For a treatise on the above, and the general cultivation of fruits we can recommend the standard work of A. J. Downing, entitled "Downing's Fruits and Trees of America." Retail price \$1.50.

Indian Corn—Early and late Planting.—Our Waterloo Correspondent writes: Those basket remarks on my experience in Indian corn culture are true, if it is a good warm corn season, with no trying drouths; but my theory will succeed in all seasons. As to having to plant corn twice over, I never yet encountered such a dilemma. I take it that no corn sets in the ground in a well underdrained field, if not planted before the tenth of May. I planted corn and sorghum on that day, this cold season and have now, 5th June, what the drouths call a "good stand." The sorghum has a darker and much narrower leaf than King Philip corn. If early planted, corn does not grow at the root when the leaves are chilled and stationary. Why does it grow so much faster than later plants which have not been thus retarded by cool weather when hot weather comes. Experiment not only proves this, but also that early planted corn stands a drouth much better than late planted.

NOTES UPON VALUABLE BOOKS.

[Purchasing Books.—Book selling is no part of our business, and we would prefer to have all our readers get such works as they desire directly from the publishers, or from a regular book-seller. But many are remote from book stores, and are cautious about sending money to unknown publishers. To accommodate such, we will at any time be happy to procure any desired book, especially on any subject treated of in the *Agriculturist*. As a general thing we can send any book by mail *post-paid* on receipt of the regular retail price—the discount allowed us by publishers being just about enough to cover the cost of mailing.]

American Short-Horn Herd Book—Vol. 3.

This valuable, indeed indispensable work to breeders of Short-Horns, is now issued, by its compiler, Lewis F. Allen, Black Rock, N. Y.* This third volume is more extensive than the second, which was issued in 1855, and contains about thirty-five hundred pedigrees, including nearly every Short-Horn herd of note in the United States and the Canadas. It is richly illustrated with upwards of a hundred fine cattle portraits, among others, those of the famous bull "Comet," bred by the late Charles Colling, of England, in 1804, and sold at his great sale for a thousand guineas; and the cow "Duchess," calved in 1800, bred also by Mr. Colling. In the portraits are shown the best cattle of half a century ago. Short-Horn cattle are now an American institution, and on no soils, and in no climates, do they give greater promise than ours. They are the ornament of the gentleman's park, and the material for the superior beef and dairies of our farmers. Every cattle breeder should have the Herd Book; and, even if he does not breed Short-Horn cattle, he will get many a capital idea from its pages, and learn how the *beau ideal* of bovine excellence is obtained by close attention, and the exercise of good taste in the selection and propagation of this noble race of animals. The book is beautifully got up in paper, printing, plates, and binding, and will make a valuable addition to every rural library in the country. We commend it to public examination.

* Those desiring the Herd Book, can address their orders to L. F. Allen, as above. It is on sale, in this City, at the Agricultural Warehouse of R. L. Allen, and at C. M. Saxton & Co.'s Agricultural Bookstore.

HOOPER'S WESTERN FRUIT BOOK: A compendious collection of facts, from the Notes and Experience of successful Fruit Cultivators, arranged for practical use in the Orchard and Garden. By E. J. Hooper, formerly editor of "Western Farmer & Gardener." Cincinnati, Moore, Wilstach, Keys & Co. 333 pages. Price \$1.

The preface to this work is written by Dr. Warder, and much of the original matter bears the impress of having been derived from the same fountain-head, though the

Doctor would hardly be held responsible for the many Yankeeisms, and much of the style which is scarcely Addisonian. Note a single example on page 152: "The Duchesse d'Angouleme, should be cultivated only on the quince, and *no where else.*" We notice that general descriptions of a genus, instead of being at the head of each genus are scattered among the varieties; thus, in the description of the Heathcot, page 165, we have the general qualities of pears, while under the Winter Nelis, page 202, we find a description of the best way to cultivate on the quince. The descriptions are generally good, although in some instances unjust; for example, of the "Fall Bough," the book says: "Little known and not approved," while, at least hereabouts, it is well known and esteemed as of first-rate quality. Stetson of the Astor House finds that his guests appreciate it by eating all he can get for them. The "Willis Sweet" is not mentioned, while in many places it is counted as one of the best baking apples if not the best; so much so, that peaches will often be left untouched at the table while Willis' Sweets are there well baked. For eating with milk, its sugary richness is unequalled. However, the book is prepared especially for Western readers, and is scarcely adapted to Eastern localities. Dr. Warder's articles on "treatment" are very good in any place, particularly respecting low set trees of every sort, and we would apply the same treatment to forest trees. We regard Dr. Warder as one who combines, perhaps better than any other pomologist, the double advantages of theory and practice, and we wish he had written the whole book or that he would prepare another such an one as he can bring out. Taken as a whole, we do not find this work at all superior to those of Barry, Elliott and others, except in its quotations from different authors in the descriptions. It is much behind Barry in the details of treatment taken from French works. The only way of getting a really good "Fruit Book" is through a committee of the Pomological Society, representing different sections of the country, with some one good pen to throw over the whole the life and spirit which Downing infused into all his writings. We throw out this hint to the Society and do not despair of yet seeing such a work published.

After all, there is no better fruit book as far as it goes; than that of A. J. Downing, and if Chas. Downing, who has more pomological knowledge, and more modesty than belongs to most fruit men, could be induced to bring his brother's book down to the present time, we should probably have about all that we specially need now on this subject. Before leaving we must add, however, that we value Mr. Hooper's work, and it will be useful to all fruit growers, not only as a Western book, but because in it we can find so readily the opinions of various pomological bodies.

Artificial Culture of Fish.

A Treatise on the Artificial Propagation of Certain Kinds of Fish, with the Description and Habits of such kinds as are the most suitable for Pisciculture. By Theodatus Garlick, M. D., Cleveland, O. Thomas Brown, Publisher.

This is a neat volume of 142 pages, comprising a series of papers which first appeared in the Ohio Farmer within a year or two past, with some emendations by the author, and detailing the theory of artificially propagating several kinds of fish, after which his own practice has been successful. It is written in a plain, unambitious style, remarkable more for good sense and close observation than the graces of scholarship, yet withal instructive, and to the point. Although the author describes several varieties of pond or still water fish which may be easily domesticated—such as the bass, perch, roach, sunfish, &c.—his favorite is decidedly the brook or speckled trout, where the waters are congenial to them. In artificially propagating and domesticating this beautiful fish, Dr. Garlick has been eminently successful. We had the pleasure of inspecting numerous specimens of his trout, of different ages, while exhibited in their large glass cases or tanks, in September last, at the State Agricultural Exhibition in Cleveland. In these cases, with fresh cold water slowly percolating through them, were some hundreds of fish from two inches in length to those of a pound weight, perfectly healthy, of brilliant color, thrifty and active. They were taken from his own propagating waters—artificial ponds fed by springs—and connected with each other by plank flumes or conduits, guarded by weirs and net-work, giving him entire control over both fish and waters. The book is a detail of successful experiments and practice, as well as theory, and therefore is to be received as authority.

We would, indeed, have been better content had the ingenious author set out on a more extended plan of instruction, with a wider scope of description in the varieties of fish for domestication, illustrated with the manner of making ponds, and converting our vagrant waters with which the country abounds, into stores where myriads of edible fish may be propagated for domestic use, and given at length the domestic habits of the most useful among them. Such a work, now that we have the mode of propagation understood, is much needed, and we cannot

but hope that one so well prepared as Dr. Garlick appears to be, from the production of this little volume, will give us the full measure of instruction which we require to carry his theory into general practice. There are thousands of farms where valuable streams flow lifelessly along, or the purest springs issue in abundance from their hillsides, which may be made capable of yielding quantities of delicious fish of many varieties, at small expense on the part of their proprietors, and afford abundance of excellent food at almost all seasons for the table.

It is passing strange to us, that among the many items of domestic rural economy which have engaged the attention of our people, fish culture has been so neglected. It is simple in theory, and easy in practice, and, as it appears to us, only needs the application of a master spirit in its development to set those who have the opportunity right at work to accomplish the result in good earnest. Our State Agricultural Societies have for three years past offered a liberal premium for a work of the kind adapted to popular use, and, strange to say, no treatise has yet made its appearance in response. We know several accomplished pens that need only to set themselves about it to give the public all the instruction they need, and trust that another year will not pass ere we can notify our readers that so welcome a volume is offered to them. We hope that Dr. Garlick may be induced to follow his brief volume by another fully suited to the exigency, and promise him in advance, not only the thanks of all liberal-minded men, but, in our judgment, a solid pecuniary recompense for his labor so worthily bestowed.

THE BEST DICTIONARY.—It would seem almost superfluous to speak of the value of a work of this kind, but next to the Bible, there is no book so important as a good dictionary—one of the kind we have in mind—and such an one as we keep three several copies of—one for general family use, one for the *sanctum* or office, and one for the *sanctum sanctorum* or private study, and were the book less bulky, we would have a fourth copy for a *vade mecum* or pocket companion. We refer of course to the Unabridged Webster's Dictionary, published by Messrs. Merriam, of Springfield, Mass., which we consider the most perfect thing of its kind in the world. When this work was first issued, during Noah Webster's life, we paid \$14 for a copy and thought it money well laid out; now a more complete edition is sold for \$5 or \$6. This is really a family Encyclopedia, as it not only directs how to spell and pronounce all the words in our language, including Geographical, Scripture, and Greek and Latin names, but it also gives such full definitions and explanations of words and phrases as to be a valuable source of information upon almost all topics. Daniel Webster, who by the way, was not, we believe, a relative of Noah, the Dictionary Man, once said: "I possess many dictionaries and of most of the learned and cultivated languages, ancient and modern, but I never feel that I am entirely armed and equipped in this respect without Dr. Noah Webster's book at command." Farmers, let the boys have a patch of ground to cultivate "on their own hook," if they agree to apply the proceeds to purchasing an Unabridged Webster's Dictionary. We have alluded to this work before, and do voluntarily so again, our attention having been called to the matter by seeing an advertisement of it in our last number.

Business Notices.

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Three sizes of Horizontal Mill, with gearing set in an iron frame, ready to attach belt or gear wheel from Steam, Water, or Horse Power.

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For 3-roller mill with horizontal rollers, 12 inches diameter, and 24 inches long, \$300.

The same size mill, vertical, with means of fastening a beam or lever overhead, so as to propel by horses, with out any additional machinery, \$175.

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None of this size, vertical, are made.

For hand mill of 3 rollers, 5 inches by 6, geared and furnished with balance wheel and two cranks, \$50, in iron frame.

We make vertical mills, each with 3 rollers, 11 inches diameter, of any length of roller, from 12 inches for \$100, to 30 inches for \$250. The 12-inch mill will give one gallon of juice per minute, with two horses. Others in proportion.

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Editor's Notes—Crop Prospects—Horse-hoes, &c.

We write this, our last item, on the 20th of June, in the south-western part of Ohio, from a point where we can look out upon the fertile domains of a large number of our readers, who, by the way, are not aware of our presence. We have during a week or two past gone over the farms of numerous readers of the *Agriculturist*, preferring to make observations and gather facts without stopping for the formalities of "making an acquaintance." We have, in this way, sometimes drawn out useful hints and suggestions in regard to what kind of information is most needed in these pages, which would have been given far less freely, had it been known that our editorial sanctum was in hearing distance. Perhaps some of the Ohio boys, on reading this item, will recall a stranger in the corn-field who asked all sorts of questions about their method of growing corn, and who was vain enough to think he could show them a thing or two about handling the hoe and cultivator. Two boys on the Tuscarawas River will doubtless remember how all three of us scud across that 400-acre corn-field to get under a big tree out of the way of a sudden shower. We remember one of them saying, "it rained every day this year, just as easy as open and shut." In the valley of the "Little Miami" River we dropped over into a corn-field where there were eleven horse-cultivators all at work near together. The work of one of the three boys we took occasion to praise a little, and it would have done any one good to see how nicely the next rows were worked. *Moral*—(to parents).—A word of praise is often more effectual than a reproof, or a blow.—Another of these boys informed us that "he read every number of the *Agriculturist* all through, and that when he got to manage a farm he should drain every field any way." We could hardly resist the temptation to break over our rule, and grasp that boy's hand and introduce ourself. We'll do it now. But enough of these matters for this time.

From our office to this point we have journeyed in a zigzag course of over 1,300 miles, always keeping an eye out upon the growing crops, and taking every possible opportunity to talk with farmers. To sum up the result of our observations thus far, we may say, that all crops are behind time, but the prospect is almost universally favorable. This is particularly true of grass. Wheat covers much less space than in any former year, except in some of the south-central counties of Ohio, where there appears to be no diminution but rather an increase of surface sown. On clay and low lands the winter-kill has produced many bare spots, but generally the fields present a full, even growth. In southern Ohio, a majority of the wheat is now headed out, and the heads are of full size.

In almost every section we have visited we find a larger surface devoted to oats and barley than heretofore, but Indian Corn is becoming from year to year more and more the great staple crop. Through the valleys of the Tuscarawas, Muskingum, Little Miami and Great Miami rivers, the rich fertile bottom lands are now, as in years past, devoted mainly to corn, no rotation or change of crop being needed. For dozens of miles one will scarcely see anything else but a succession of these fields in the foreground, while back from the river at a distance of half a mile, or less, to three or four miles in some places, the hills are covered with wheat or clover. If we were called upon to prescribe for a pale, despicent denizen of the City, we would at once advise him to take a trip from east to west through central Ohio at this season, say from Alliance, or Bayard, or Steubenville to Dayton. Two months at Saratoga or Newport is not worth mentioning in comparison. Whither to journey from Dayton we can talk better about hereafter, when we have been there.

Just now, corn growers find it difficult to get their hoeing done. It rains almost every day, and has done so for weeks past. In hundreds of fields the weeds are choking the corn. Unless we have fairer weather soon, many fields will be greatly injured for want of being worked. The horse-cultivators are worth their weight in silver now, and whoever makes even the slightest improvement upon the present form of this implement, will confer an immense benefit upon the whole country, and deserve a rich reward. Let the horse-hoe inventors tax their ingenuity still farther. There is a wide field before them.

Sugar Cane Mills.

In our advertising columns will be found the announcement of Messrs. Hedges, Free & Co. We have to-day (June 19) visited their manufactory in Cincinnati, and examined the mills of different forms and sizes. Though unable to see them in actual operation for want of materials to work with, we think they promise to excel any other form of pressing roller we have examined. Of the two forms we give the decided preference to the vertical or upright cylinders, as these dispense with the additional horse power apparatus necessary to drive the horizontal cylinders. The \$100 size, 11 inches in diameter and 12 inches in length of cylinder will answer for ordinary pressing on a moderate scale. For smaller experimental

operations the hand mill will be sufficient. We tried one of these to-day with dried cane from the South. The pressing was well done, but we should judge that it would require two strong men to turn it for any length of time. It is small, compact, and low priced, and for limited trials will perhaps be all that will be required. Were we confident that a large business would be done in manufacturing the sugar from the Chinese sugar cane, we should say by all means get one of the larger mills. The smallest size can be readily attached to the common Horse Power of a thrashing machine by means of a band wheel. Further information can be obtained by addressing the manufacturers. We learned from them that they have, just now, calls for about all the mills they can make, but they hope to be able to supply all reasonable applications.

The lateness of the season, and the continued rains will have a decided tendency to retard experiments with the Sugar cane this season. We have met with several persons who were not able to plant the seed until June 15th and later, while others put it into the ground just before long cold rains, and lost a part of their seed by rotting.

Each Volume.

We have now spare copies of Volumes XII, XIII, and XIV. *only*. Price unbound, \$1 per volume, or \$1 25 if prepaid by mail. Price, bound, \$1 50 per volume, not mailable.

Advertisements.

TERMS—(invariably cash before insertion):

Twenty-five cents per line (of ten words) for each insertion. By the column or half column, \$30 per column for the first insertion, and \$25 for each subsequent insertion. Business Notices *forty* cents a line. Advertisements to be sure of insertion must be received at latest by the 20th of the preceding month.

"Think of Living." New Volumes!

OUR ILLUSTRATED FAMILY JOURNALS:

LIFE ILLUSTRATED; a First-Class Pictorial Family Paper, devoted to News, Literature, Science, the Arts; to Entertainment, Improvement, and Progress. A large, handsome quarto. Published weekly, at \$2 a year. \$1 for half the year.

NEW VOLUMES OF THE FOLLOWING BEGIN WITH THE JULY NUMBER:

THE WATER-CURE JOURNAL; devoted to Hydrotherapy, its Philosophy and Practice; Physiology, Anatomy, and the Laws of Life and Health. Illustrated, Monthly, \$1 a year.

THE PHRENOLOGICAL JOURNAL; gives Practical Instructions to Learners, with Directions for the Cultivation and Improvement of Mankind. Illustrated. \$1 a year.

For THREE DOLLARS, all three Journals will be sent a year. Address

FWLLER AND WELLS, 308 Broadway, New-York.

To Persons out of Employment.

WANTED—IN EVERY COUNTY IN the United States, active, industrious and enterprising men, as Agents for the sale, by subscription, of valuable and interesting Books; all of them being expressly adapted to the wants of every family, and containing nothing of a pernicious or injurious tendency. Our Publications are among the best in the country, and good Agents can realize a profit from \$2 to \$3 per day by engaging in the business. A small capital of only \$20 to \$50 is required. For further particulars, address

ROBERT SEARS, Publisher, No. 181 William-street, New-York.

CHINESE SUGAR-CANE SEED, 50 Cents per Pound.

The subscriber has a few hundred pounds of the best Chinese Sugar-Cane Seed (called also "Chinese Imphee," "Sorgho," &c.), which will be sold during the remainder of the season, in small or large quantities, to suit purchasers, at *seventy-five cents a pound*.

This seed was grown by Leonard Wray, Esq. R. L. ALLEN, 189 Water-street, New-York.

NORMAN HORSE.—YOUNG DILIGENCE

will stand for a limited number of mares the ensuing season. He was raised by the subscriber, and is now (June 1) 23 months old, 16 hands high, and 3 feet 10 inches girth. He was sired by the imported horse Diligence, and is of chestnut sorrel color. JAMES A. ECKERSON. TAPPAN, Rockland Co., N. Y.

ALDERNEY COWS FOR SALE.

TWO COWS WITH CALVES—ONE Bull Calf, one Heifer do.; one Heifer, 15 months old; one very fine Bull; were imported some sixteen months ago, and will be sold reasonable. Address GIDEON THOMPSON, Bridgeport, Ct.

THE SHORT-HORN BULL GOVERNOR

for sale at a bargain. He is one of the best bred Bulls in the country, good size, fine form, &c. For pedigree, see (541) American Herd Book, Vol. 2d, page 153. J. F. SHEAFE, New-Hamburg, Dutchess Co., N. Y.

AMERICAN GOTHIC—INVENTED

by EUGENIO LATILLA, Architect. Designs made for concrete buildings. Address, Gothica, Chappaqua Post-Office, Westchester county, N. Y.

FIELD AND GARDEN SEEDS.

A FULL ASSORTMENT OF THE choicest Foreign and Domestic Field and Garden Seeds, raised expressly for my trade. Especial care is taken that all seeds are fresh and genuine to the kind. For sale, wholesale and retail.

- Chinese Sugar Cane Seed.....50 cents per pound.
- Rutabaga, Russia or Swedish Turnip.....50 cents do.
- Large White Flat Turnip.....50 cents do.
- Long White Fankard do.....50 cents do.
- Yellow Aberdeen do.....75 cents do.
- Yellow Stone do.....75 cents do.
- Red Top do.....75 cents do.
- Carrot—Long Orange and White Belgian.
- Beet—White Sugar, Mangold Wurtzel.
- Spring and Winter Velches, Broom Corn.
- Grass Seeds—Timothy, Red Top, Orchard, Ray, Blue, Sweet scented Vernal, Fowl Meadow, Mixed Lawn.
- Clover—Red, Dutch White, Lucerne, Alsike, Crimson Sweet-scented.
- Mill—Extra clean, for sowing.
- Orange, Yellow and Honey Loonst.
- Strawberry, Currant and Raspberry Seed.
- Buckwheat of superior quality.
- Bird Seed, Canary, Hemp, Rape, Maw and Rough Rice.
- Grating Wax, Whale Oil Soap, Guano and Superphosphate o Lime, in small packages of 25 cents each.
- Fruit Trees and Shrubs of all kinds furnished to order.
- Books.—A choice variety of Standard Works on Horticulture, Agriculture, &c. &c.
- American Herd Book, Vols. 1, 2 and 3.

R. L. ALLEN, 189 Water-st., New-York.

SUPERIOR SEED BUCKWHEAT.—

For sale by R. L. ALLEN, 189 Water-st., New-York.

PORTABLE SAW MILLS.

"MILLER'S PLANTATION SAW MILL" is the only Mill in the world that can be shipped perfectly built and ready for running. The saw is fitted in its place, and every wheel and pulley in their proper position. The purchaser has no building or fitting up to do on receipt of his Mill—simply to drive, say eight or ten stakes to bolt his bed-pieces to brace his Mill firmly—put in his team, and commence sawing. There is no digging—no hauling up of logs—and the planter or lumberman need not encounter the danger that always attends small portable engines and boilers, as this Mill can be operated to advantage by horse-power—six horses giving power enough to manufacture 2,500 feet of lumber in twelve hours. A Mill is kept constantly running in this city for the inspection of buyers. Price \$500—with extra machinery for horse-power, \$650.

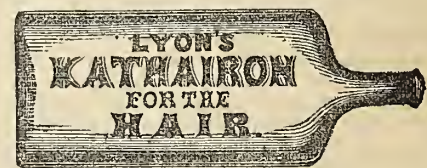
T. MILLER, 120 William-st., New-York. ALBERT PALMER & J. H. HUNTINGTON, 120 William-st., New-York, General Agents.

HAY AND COTTON PRESSES—THE

attention of farmers is called to Ingersoll's New Premium Portable Hay Press. This Press combines greater power and portability, requires less labor, occupies less space, and costs less money, than any other machine for baling hay ever offered to the public. It is equally convenient for pressing cotton, hemp, hops, broom corn, reeds, husks, &c. Full particulars will be furnished upon application, by letter or otherwise, to FAIRBANKS & CO., Scale Manufacturers, No. 169 Broadway, New-York.

THERMOMETERS, BAROMETERS, &c.

of reliable quality and various descriptions, among which are those particularly suited for Horticultural purposes, which register the coldest and warmest degree of temperature during the 24 hours, in the absence of the observer. For sale by D. EGGERT & SON, 239 Pearl-st.



Fine, beautiful hair—jet black or brown; Or tresses, curling and golden— Is the certain result—without chance or doubt— Of the use of LYON'S KATHAIRON.

The immense sale of LYON'S KATHAIRON—nearly 1,000,000 bottles per year—proves its excellence and universal popularity. It restores the Hair after it has fallen out, invigorates and beautifies it—making it soft, curly, and glossy—cleanses it from all Scurf and Dandruff, and imparts to it a delightful perfume. The Ladies universally pronounce it the finest and most agreeable article ever used. Sold by all dealers, every where, for 25 cents per bottle.

HEATH, WYNKOOP & CO., Proprietors and Perfumers, 63 Liberty-street, New-York.

TO SONS OF TEMPERANCE—THE

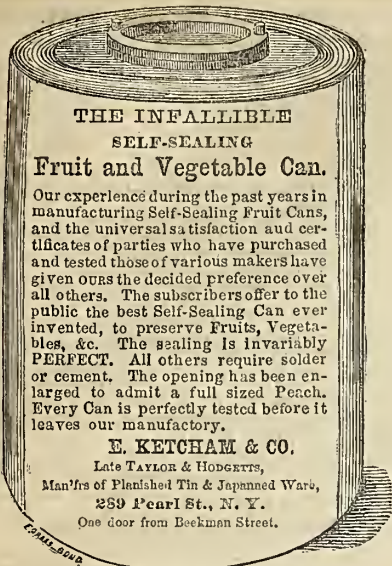
INDEPENDENT EXAMINER. Poughkeepsie, N. Y. H. A. GUILD, Editor and Proprietor, is now the Official Organ of the Sons of Temperance of Eastern New-York. It is a large-sized, handsomely-printed weekly paper, advocating fearlessly and boldly the Great Cause of the day. The Examiner should find its way into every family, and into the hands of all who wish early and accurate temperance information. Terms.—One Dollar and Fifty Cents per annum, in advance. H. A. GUILD, Poughkeepsie, N. Y.

RUSSIA OR BASS MATS, GUNNY

BAGS, TWINES, &c., suitable for Nursery purposes, for sale in lots to suit, by D. W. MANWARING, Importer, 248 Front-street, New-York.

WILLARD FELT, No. 14 Maiden-lane,

Manufacturer of Blank Books, and Importer and Dealer in PAPER and STATIONERY of every description. Particular attention paid to orders.



THE INFALLIBLE SELF-SEALING Fruit and Vegetable Can.

Our experience during the past years in manufacturing Self-Sealing Fruit Cans, and the universal satisfaction and certificates of parties who have purchased and tested those of various makers have given ours the decided preference over all others. The subscribers offer to the public the best Self-Sealing Can ever invented, to preserve Fruits, Vegetables, &c. The sealing is invariably PERFECT. All others require solder or cement. The opening has been enlarged to admit a full sized Peach. Every Can is perfectly tested before it leaves our manufactory.

E. KETCHAM & CO.

Late TAYLOR & HODGETTS,
Man'rs of Planchet Tin & Japanned Ware,
259 Pearl St., N. Y.
One door from Beekman Street.

TAYLOR & HODGETTS' INFALLIBLE

SELF-SEALING FRUIT CAN,

WITH BURNETT'S ATTACHMENT.
Patented August 21, 1855.

It has long been a desideratum to preserve Fruits by some cheap method, such as would keep them fit for domestic use, a number of years. The expense of preserving with sugar is a serious objection. Free access of atmosphere causes the decomposition of vegetable matter. It is obvious that the exclusion of it must prevent this effect from taking place, and that, consequently, if Berries, Fruits, Vegetables, &c. &c. are completely kept from the contact of air, they cannot spoil. To effect this, the only safe and reliable article is

TAYLOR & HODGETTS' SELF-SEALING CAN.

It is so simple in its construction, that any one can close Fifty Cans an hour without the aid of a tinner; it requires neither Solder, Cement nor Wax. The article is very strong, and will last a number of years. The aperture is sufficiently large to admit a full sized peach.

Apricots, Plums, Peaches, Strawberries, Raspberries, Blackberries, Tomatoes, Green Peas, Green Corn, Figs, Asparagus, Rhubarb or Pie Plant, and in fact each and every kind of Fruit and Vegetable, can be preserved for years in their fresh state, in any climate.

SIZES.
Quart, 3-Pint, Half-Gallon and Gallon.
Trade supplied on liberal terms.
Full directions for putting up the various Fruits and Vegetables accompany the cans.

E. KETCHAM & CO.,
259 Pearl-street, New-York.

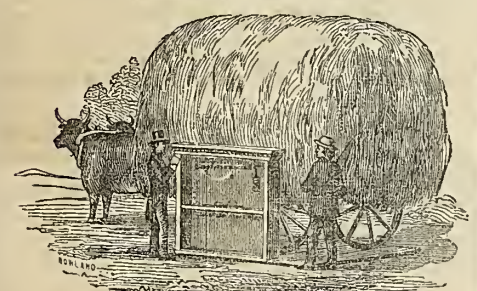
SPRATT'S PATENT SELF-SEALING CANS

ARE ACKNOWLEDGED to be the only safe and reliable Self-Sealing Cans in the market. They have now been in use for the past three years, and Fruit and Vegetables preserved in them have been subjected to severe tests by change of climate from Canada to California, and when opened the contents are found in perfect state of preservation, with all the natural flavor as if just put up. By these Cans, Fruit of all kinds may be preserved perfectly fresh without the use of Sugar. The process is very simple and the cans are easily closed and opened by a wrench made for the purpose—full directions for use accompany the cans.

PRICES.
Quart Cans, per dozen \$2 50
Half Gallon Cans, per dozen 3 75
One Gallon Cans, per dozen 5 00
Wrenches, each 06

WELLS & PROVOST, Sole Proprietors,
No. 215 Front-st., New-York.

FAIRBANK'S



HAY AND CATTLE SCALES.

FOR WEIGHING Loaded Wagons, Carts, Live Stock, Produce, &c. More than Four Thousand of these convenient and durable Scales have been put up by us in all parts of the United States and the British Provinces. We also have more than One Hundred different modifications of

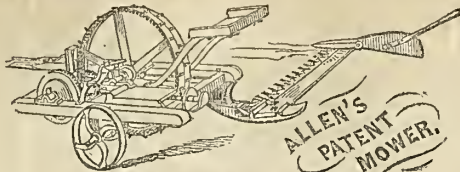
PLATFORM AND COUNTER SCALES,
adapted to every required operation of weighing.

Pamphlets with Cuts and Descriptions will be furnished upon application, by mail or otherwise.

FAIRBANKS & EWING,
Masonic Hall, Philadelphia, Pa.
FAIRBANKS & CO., 169 Broadway, New-York.

TO PRINTERS—For Sale a quantity of
Type (Pearl to Pica); Chases; Double Stands, (\$3 50); Stone; Galleys; Leads; Rules, with a large number of Card Fonts, Cuts, Borders, Cabinet, &c., cheap. Apply at this Office.

THE BEST MOWING MACHINE IN THE WORLD.



ALLEN'S PATENT IMPROVED MOWING MACHINE,

AND COMBINED MOWER AND REAPER;
STRONG, SIMPLE IN CONSTRUCTION, NOT LIABLE TO GET OUT OF ORDER;
COMPACT, LIGHT, EASY OF DRAFT,
PERFECTLY SAFE TO THE DRIVER,
AND MAY BE WORKED WITH A SLOW GAIT BY HORSES OR OXEN.
NO CLOGGING OF KNIVES.

Works well on Rough Ground, also on Side-hills, Salt and Fresh Meadows, &c., and in any kind of lodged Grass and Clover.

WARRANTED TO GIVE ENTIRE SATISFACTION.

MANUFACTURED AT
THE AGRICULTURAL IMPLEMENT MANUFACTORY,

And for sale at the Warehouse and Seed store of
R. L. ALLEN, 139 Water-street, New-York.

SEE WHAT FARMERS SAY OF IT.

We, the subscribers, having seen your (Allen's) Patent Mowing Machine in use, both in heavy and light grass and clover, and in places badly lodged, speak of its performance with universal approbation. It may be drawn by a pair of light horses with ease, cutting wide and perfectly clean, and leaving the grass spread in the best possible manner. We also believe that more grass may be cut in a day, and in a better manner, with your Mower than with any other in this vicinity. We therefore recommend it as the very best Mower now in use.

C. P. Treat, S. C. Douglass, Wm. L. Perkins, Alanson Moffitt, Michael Baris, David Knapp, D. G. King, Isaac Watts, Robert Treat, Peter Hitchcock, L. T. Willmot, Carlton Clapp, Geauga Co., Ohio, Nov. 20, 1855.

We have used Allen's Patent Mower during the late harvest, and find it to work well. It is of easy draft, and comes quite up to our expectations.

Tunis V. Couover, James Woole, Dr. Wm. Couover, Henry Weathers, Joseph C. Couover, Henry Robinson, Jacob Schenck, Mrs. Schenck, H. S. Couover, D. Schenck, John Davidson, James Hoese, L. T. Willmot, Mariboro', Monmouth Co., N. J., Nov. 20, 1855.

The subscribers having seen Allen's Patent Mowing Machine in use, both in heavy and light grass of different sorts, are prepared to speak of its performance with the highest approbation. It was drawn by a pair of light horses with apparent ease, cutting a wide swath perfectly clean, whether the grass were standing or badly lodged, and leaving it spread in the best possible manner. This was done during and immediately after a heavy shower, and without any clogging of the knives.

Marshall P. Wilder, Pres. U. S. Agricultural Society, Charles C. Sewell, Aaron D. Weld, Boston, Mass., Nov. 26, 1855.

The undersigned were present at a trial of Allen's Patent Mower on the farm of Jesse Jewell, Esq., and were much gratified with its operation. It cuts close—no clogging—and is light for a span of horses in ordinary mowing. It is a strongly made and excellent machine.

Lee Taft, Ira Bushnell, C. M. H. Ferguson, A. M. Hawkins, J. Jewell, Anson Wentworth, Starksboro', Vt., Aug. 22, 1855.

The undersigned have seen Allen's Mowing Machine tested in different kinds of grass, and can recommend it as a most reliable machine, which can not fail to give satisfaction in any kind of grass. We consider it contains more advantages than any other in use.

Patrick Durmedy, Whitestone, L. I. George L. Smith, do. Henry Allen, Great Neck, L. I. Lucius M. White, Strattonport, L. I. M. Johnston, Great Neck, L. I. Long Island, N. Y., Oct. 15, 1855.

We have each used one of Allen's Improved Mowers the past season, and testify that it is an easy working, durable, and every way satisfactory machine.

James Jacobus, Stilestown, Morris Co., N. J. Isaac Van Dine, Mountville, Morris Co., N. J. Levi E. Kent, Rockaway Neck, Morris Co., N. J. Abraham H. Husk, Fairfield, Essex Co., N. J. Henry Francisco, Franklin, Essex Co., N. J.

The undersigned have used Allen's Patent Mowing Machine during the past harvest, and can recommend it with confidence to their fellow-farmers as a reliable mower—doing all it professes to do, and excelling any other mower known in these parts; and we believe we have seen all the most improved patterns. It does not clog, and will cut grass with a cutter, if needed.

T. E. Porter, Wm. Dickinson, Chas. Wheeler, W. A. Smith, John Bell, Edwin Porter, T. P. Huntington, Geo. Gaylord, T. Granger, Chester Smith, H. Burrell, T. Smith, Hadley, E. Williams, G. Lynan, } Amherst, Mass. Erik Poker, C. Merrick, } Henry Parsons, David Dawson, Northampton, Mass. M. Stebbins, Deerfield, Mass. Royal Fowler, Westfield, Mass.

Hampshire Co., Mass., Dec. 1, 1855.

We have been much pleased with the Allen Mowers purchased from your agent. We consider it quite superior to other machines in lightness of draft, slow speed at which the team may work, compactness, ease of management, and safety to driver. It does not clog, is well made, costs nothing for repairs, and the spring on side-wheel and loose play of tongue are great improvements. We think you have, by far, the best machine made. **David L. Fielding, Justus C. Haviland, Dabne B. Haight, Senier S. Northrop, Taber Belden, Cleme at Haight, J. Haviland, Jr., Joseph Belden, Jacob C. Haight, Richard Sherman, Jonathan Plume, R. G. Coffin, James M. Martin, Jarvis Congden, Jacob N. Haight, Daniel H. Lyon. Dover Plains, N. Y., Nov 1855**

CHOICE FARM LANDS FOR SALE. THE ILLINOIS CENTRAL RAILROAD COMPANY

IS NOW PREPARED TO SELL ABOUT 1,500,000 ACRES OF CHOICE FARMING LANDS, IN TRACTS OF FORTY ACRES AND UPWARDS, ON LONG CREDITS, AND AT LOW RATES OF INTEREST.

THESE LANDS WERE GRANTED BY the Government to aid the construction of this Road, and are among the richest and most fertile in the world. They extend from Northeast and Northwest, through the middle of the State, to the extreme South, and include every variety of climate and productions found between those parallels of latitude. The Northern portion is chiefly prairie, interspersed with fine groves, and in the Middle and Southern sections timber predominates, alternating with beautiful prairies and openings.

The climate is more healthy, mild and equable, than any other part of the country; the air is pure and bracing, while living streams and springs of excellent water abound.

Bituminous Coal is extensively mined, and supplies a cheap and desirable fuel, being furnished at many points at \$2 to \$4 per ton, and wood can be had at the same rate per cord.

Building Stone of excellent quality also abounds, which can be procured for little more than the expense of transportation.

The great fertility of these lands, which are a black rich mold from two to five feet deep, and gently rolling—their contiguity to this road, by which every facility is furnished for travel and transportation to the principal markets North, South, East, West, and the economy with which they can be cultivated, render them the most valuable investment that can be found, and present the most favorable opportunity for persons of industrious habits and small means to acquire a comfortable independence in a few years.

Chicago is now the greatest grain market in the world, and the facility and economy with which the products of these lands can be transported to that market, make them much more profitable at the prices asked than those more remote at Government rates, as the additional cost of transportation is a perpetual tax on the latter, which must be borne by the producer in the reduced price he receives for his grain, &c.

The Title is Perfect, and when the final payments are made, Deeds are executed by the Trustees appointed by the State, and in whom the title is vested to the purchasers, which convey to them absolute titles in Fee Simple, free and clear of every incumbrance, lien or mortgage.

The prices are from \$6 to \$20.

INTEREST ONLY 3 PER CENT.

20 per cent. deducted from the Credit price for Cash.

Those who purchase on long credit give notes payable in 2, 3, 4, 5 and 6 years after date, and are required to improve one-tenth annually for five years, so as to have one-half the land under cultivation at the end of that time.

Competent Surveyors will accompany those who wish to examine these lands, free of charge, and aid them in making selections.

The lands remaining unsold are as rich and valuable as those which have been disposed of.

SECTIONAL MAPS

Will be sent to any one who will inclose fifty cents in Postage Stamps, and Books of Pamphlets, containing numerous plans of successful farming, signed by respectable and well-known farmers living in the neighborhood of the Railroad lands throughout the State; also the cost of fencing, price of cattle, expense of harvesting, threshing, etc., or any other information, will be cheerfully given on application, either personally or by letter, in English, French or German, addressed to

JOHN WILSON,

Land Commissioner of the Illinois Central Railroad Co. Office in Illinois Central Railroad Depot, Chicago, Illinois.

DOCTOR HOOKLAND'S CELEBRATED GERMAN BITTERS.

PREPARED BY **Dr. C. M. JACKSON, Philad'a, Pa.**

WILL EFFECTUALLY CURE LIVER COMPLAINT, DYSPEPSIA, JAUNDICE, CHRONIC OR NERVOUS DEBILITY, DISEASES OF THE KIDNEYS AND ALL DISEASES ARISING FROM A DISORDERED LIVER OR STOMACH;

Such as Constipation, Inward Piles, Fullness or Blood to the Head, Acidity of the Stomach, Nausea, Heartburn, Disrust for Food, Fullness or Weight in the Stomach, Sour Eructations, Sinking or Fluttering at the Pit of the Stomach, Swimming of the Head, Hurried and Difficult Breathing, Fluttering at the Heart, Choking or Suffocating Sensations when in a lying posture, Dimness of Vision, Dots of Webs before the Sight, Fever, and Dull Pain in the Head, Deficiency of Perspiration, Yellowness of the Skin and Eyes, Pain in the Side, Back, Chest, Limbs, &c. Sudden Flushes of Heat, Burning in the Flesh, Constant Imaginings of Evil, and Great Depression of Spirits.

The Proprietor, in calling the attention of the public to this preparation, does so with a feeling of the utmost confidence in its virtues and adaptation to the diseases for which it is recommended.

It is no new and untried article, but one that has stood the test of a ten years' trial before the American people, and its reputation and sale is unrivaled by any similar preparations extant. The testimony in its favor, given by the most prominent and well-known physicians and individuals in all parts of the country, is immense, and a careful perusal of the Almanac, published annually by the Proprietor, and to be had gratis of any of his Agents, cannot but satisfy the most skeptical that this remedy is really deserving the great celebrity it has obtained. Principal Office and Manufactory, No. 26 ARCH-street, Philadelphia, Pa. And for sale by all Druggists and Store-keepers in every town and village in the United States and Canada.

MARKET REVIEW, WEATHER NOTES, &c.

AMERICAN AGRICULTURIST OFFICE,
NEW-YORK, June 22, 1857.

The Breadstuff trade has not extended much during the past month. The receipts from the interior, though curtailed by the irregular working of the Canals, have been pretty heavy, while receivers, who commenced the month with manifest reluctance to sell unless at advanced prices, closed it with an eagerness to realize upon their supplies, which has given the market a decided turn in favor of buyers. These have operated with unusual reserve, throughout the month, looking for increased arrivals, and lower prices. The demand has been mainly for home use, though for a while there was some speculation, while shippers bought very little. The general anticipation now is that there will be no scarcity of Breadstuff, and consumers are not anxious about securing supplies, as they do not apprehend any alarming rise in prices. We noticed that a small parcel of new flour, made from Georgia new Wheat, and received from Savannah by steamer, brought about \$11 per barrel, owing partly to the fact that it was the first lot of new Wheat Flour offered here this season. It was ground at the Carmichael Mill's, Augusta, Ga., from white Wheat grown in that vicinity, and was deemed one of the finest samples ever offered here. The invoice consisted of ten barrels. No new Wheat has yet come to hand. Last year the first new Wheat arrived here on the 19th of June. We may expect some considerable lots of the new crop from the South very soon. Cotton is in better request at a shade higher rates. Our available stock of Cotton is now about 56,800 bales, against 52,300 same time last year. The receipts of Cotton at shipping ports, to latest dates this season, have been 2,858,948 bales, against 3,401,294 bales to the corresponding period of last season. The total exports of Cotton from the United States, so far this season, have been 2,051,376 bales, against 2,689,147 bales to the same time last season. The total stock on hand and on-shipboard, in all the shipping ports, at the latest dates, was 262,507 bales, against 269,076 bales at the same period last year. The stock in the interior towns, at the latest dates, was 24,581 bales, against 21,668 bales at the corresponding period a year ago. Provisions have been pretty freely purchased, but at generally reduced quotations. Coffee and Tea have attracted considerable attention at full and buoyant prices. White Sugar and Molasses have been lightly dealt in, owing to the high claims of factors. The receipts of Sugar have been extensive, and the supply of this commodity, now here, is unusually large. Hay has arrived and been sold more freely at decidedly easier rates. Hops are quiet, yet stuffy here, with a moderate supply available. Corn and Grass seeds remain inactive and somewhat nominal in price. Rice is moderately inquired for at uniform quotations. Tallow is pretty brisk, but rather less firm. Tobacco is in light supply and slack request at full prices. Wool is in limited demand, and is heavy in price. Old fleece is nearly out of market, and old pulled is also quite scarce, yet this does not seem to have any effect on buyers. The new clip is coming forward slowly, and we hear of no important movements therein at any point of the interior. Speculation is rife, as to what will be the opening prices, but the general opinion seems to run against the maintenance of the high rates prevalent throughout the past twelve months, which is also rendered improbable by the indisposition of manufacturers to keep their mills wholly or urgently, at work, while manufactured goods meet with so little favor, and command such very poor prices as they do at the present time.

We annex a comparative list of the closing prices of the principal agricultural products, last month and this, showing the fluctuations since our previous issue:

	May 22.	June 22.
Flour—Comm'n to Extra State	\$6 35 @ 6 75	\$6 00 @ 6 60
Common to Fancy Western	6 35 @ 6 70	6 10 @ 6 50
Extra Western	6 70 @ 10 00	6 50 @ 10 50
Fancy to Extra Genesee	7 20 @ 9 75	7 15 @ 10 00
Mixed to Extra Southern	7 20 @ 9 50	7 00 @ 9 75
RVE FLOUR—Fine and Super	3 65 @ 5 00	4 25 @ 6 00
CORN MEAL	3 65 @ 4 15	4 00 @ 4 35
WHEAT—Canada White	1 75 @ 1 90	1 80 @ 1 90
Western White	1 70 @ 1 90	1 75 @ 1 95
Southern White	1 70 @ 1 90	1 75 @ 1 92½
All kinds of Red	1 40 @ 1 67½	1 42½ @ 1 70
CORN—Mixed	88 @ 90	86 @ 87
Yellow	90 @ 90	88 @ 90
White	88 @ 92	89 @ 95
Oats—State and Western	56 @ 63	55 @ 63
Jersey	54 @ 58	57 @ 63
Southern	31 @ 35	33 @ 37
RVE	1 02 @ 1 04	1 20 @ 1 25
BARLEY	1 40 @ 1 60	1 45 @ 1 75
White Beans	1 81½ @ 1 93½	2 25 @
Black-eyed Peas, per 2 bush.	3 50 @ 3 75	3 50 @ 3 70
COTTON—Middlings, per lb.	13½ @ 14½	14 @ 14½
Fair	14½ @ 15½	15 @ 15½
RICE, per 100 lbs.	4 25 @ 5 25	4 25 @ 5 25
Hops, per lb.	7 @ 11	8 @ 12
PORK—Mess, per bbl.	23 50 @ 23 60	22 90 @ 23 00
Prime, per bbl.	19 15 @ 19 25	19 20 @ 19 25
BEEF—Country Mess.	13 50 @ 14 50	14 00 @ 15 00
Hops, Dressed, per lb.	8½ @ 9½	Nominal
Lard, in bbls, per lb.	14½ @ 14½	14½ @ 14½
BUTTER—Western, per lb.	18 @ 24	15 @ 20
State, per lb.	20 @ 26	18 @ 25
CHEESE, per lb.	11 @ 12	6 @ 10½

POTATOES—Mercers, per bbl.	3 50 @ 4 00	3 50 @ 4 00
Bermudas, per bbl.	@	6 00 @ 6 50
ONIONS—New-Orleans, per bbl	@	3 00 @ 3 50
Bermudas, per lb.	@	1½ @ 2
Eggs, fresh, per dozen	16½ @ 16½	17 @ 18
FATHERS, Live Geese per lb.	50 @ 56	48 @ 54
SEED—Clover, per lb.	11 @ 12	Nominal
Timothy, mowed, per bushel.	3 25 @ 3 50	Nominal
Timothy, reaped, per bushel.	3 75 @ 4 00	Nominal
SUGAR, Brown, per lb.	9½ @ 12½	9½ @ 12
MOLASSES, New-Orleans, prgl	75 @ —	70 @ 75
COFFEE, Rio, per lb.	9½ @ 11½	9½ @ 11½
Hyson Teas, per lb.	@	37½ @ 75
Conou Teas	@	32 @ 50
Tobacco—Kentucky, &c. pr lb	10½ @ 21	10 @ 22
Seed Leaf, per lb.	11½ @ 45	11½ @ 45
WOOL—Domestic fleece, per lb.	35 @ 60	35 @ 55
Domestic, pulled, per lb.	32 @ 50	32 @ 47
HEMP—Undr'd Amer'n pr ton.	170 00 @ 200	170 00 @ 200 00
Dressed American, per ton	240 00 @ 255	240 00 @ 255 00
HAY per 100 lbs.	1 00 @ 1 12½	70 @ 85
TALLOW, per lb.	11 @ 11½	11 @ 11½
WHISKY, Domestic, per gal.	33 @ 34	31½ @ 32
OIL, CRACK, per ton.	31 00 @ 36 00	39 00 @

The subjoined tabular statement presents summaries of the total receipts of the leading kinds of Breadstuffs, by railroad, river and coastwise, and of the total sales, here for twenty-seven business days, ending to-day, as well as of the exports from the port of New-York for the same period:

	Receipts	Sales	Exports.
Wheat Flour, bbls.	203,400	306,625	63,870
Wheat, bushels.	452,800	427,450	86,054
Corn, bushels.	223,500	775,500	66,137
Rye, bushels.	23,500	50,500	
Barley, bushels.		4,700	

These summaries enable us to make the following comparison of the receipts and sales:

	Receipts.	Sales
Total 27 days this month in bushels.	1,892,800	2,791,275
Total 24 days last month in bushels.	1,264,000	2,639,575

Increase this month, in bushels. 628,800 151,700

They also afford the following comparison of the exports, from the port of New-York, for twenty-four business days last month, and twenty-seven business days this month:

	LAST MONTH.	THIS MONTH.
Flour, bbls.	68,051	63,870
Wheat, bush.	88,327	86,054
Corn, bush.	132,049	66,137
Rye, bush.	1,004	

CATTLE MARKET.—The receipts of Beef Cattle for four weeks ending June 17, were 10,767, or 1,499 less than during the preceding four weeks. Receipts for the week ending May 27, 3,060; June 3, 1,949; June 10, 3,191; June 17, 2,567. Prices varied as follows; May 27, 1½c. decline; June 3, a similar advance; June 10, 1c. decline; June 17, no change; making a total decline for the month of 1c. Wednesday June 17, prices ranged: Premium Cattle, 13c. @ 13½c. First quality, 12c. @ 13c. Medium quality, 12c. @ 12½c. Poor quality, 11½c. @ 12c. Poorest quality, 11c. @ 11½c. General selling prices, 11c. @ 13c. Average of all sales, 12c.

Receipts of Sheep and Lambs for the four weeks ending on the 17th, were 23,152, giving an increase of 7,369, over the same period of last month. Prices now range at 5c. @ 6c. live weight, or 10c. @ 12c. ¾ lb. dressed weight. Arrivals have been much more free of late, with a good supply of lambs which bring \$3 50 @ \$6 00 per head.

THE WEATHER.—Cold and rain have thus far counterbalanced the usual heat of June. True, there have been a goodly number of bright warm days, during which vegetation strove to make amends for a tardy Spring, but those attempts were soon checked by cool rain storms. The general prospect, however, is favorable to good crops of fruit, hay, grain, potatoes and other vegetables, nor do we yet despair of a good corn season. Our condensed weather notes commencing May 23, read; clear and warm to the 27th, the mercury reaching 84° on the 25th. Rain fell during the night of the 27, 28 cloudy A. M., clear P. M. rain at night; 29 to 31 clear and warm; vegetation advancing rapidly; mercury 82° on the 31st. June 1, rainy day; 2 clear and hot; 3 clear, showers at night; 4 clear and warm; 5 and 6 clear and cool; 7 rain P. M.: 8 clear A. M., rain P. M.; 9 and 10 rain or mist; 11 heavy showers; a tornado accompanied with large sized hail passed over Long Island damaging crops and buildings; 12 to 15 clear, fine and warm; 16 to 18 cloudy and cool, with more or less rain each day; 19 heavy rain; 20 fog A. M. clear P. M.; 21 fog A. M. showers P. M.; 22 heavy thunder shower early A. M., with showers during the day; 23 clear and cool.

When this Number is Mailed.

The first copies of this (July) Number will be mailed to the most distant subscribers on Wednesday, June 24. The balance will be mailed on Thursday, Friday, and Saturday, June 25, 26, 27, those going the greatest distance being sent off first. All further delays must be charged to the U. S. Post-Office Department.

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American Agriculturist.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; IN-DOOR and OUT DOOR work around the DWELLING; care of DOMESTIC ANIMALS, &c. &c.

The matter of each number will be prepared with reference to the month in which it is dated, and will be promptly and regularly mailed at least one day before the beginning of the month.

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ORANGE JUDD, A. M., }
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NEW-YORK, AUGUST, 1857.

[NEW SERIES—No. 127.

Business Office at No. 191 Water-st.
For Contents, Terms, &c. see page 192.
Notes to Correspondents, pages 188-9.
For Business Notices, see page 189.
For Advertisements, see page 191.

WORK FOR THE MONTH.

"An August day! a dreamy haze
Fills air, and mingles with the skies;
Sweetly the rich dark sunshine plays,
Bronzing each object where it lies.
Outlines are melted in the gauze
That Nature veils; the fitful breeze
From the thick pine low murmuring draws.
The bee is slumbering in the thistle,
And now and then, a broken whistle—
A tread—a hum—a tap—is heard."

Street is one of the happiest delineators of rural scenes. One sees in his "August" the veritable dog-days, and feels the mid-day stillness and the sweltering air, and hears the voices of insect life, made audible only by the silence of Nature. Every one responds to the truthfulness of the pictures which the poet awakens in his mind by his word-painting. He sees the thick-leaved pine and the aspen standing like sculptured rock, the drooping leaves of the tasseled corn, the misty blue of the heavens, the distant masses of cloud, fleecy, and motionless upon the azure background. The insects never seem more busy than at this season of the year. They are found everywhere in field and forest, wheeling through the air with dreaming murmur, or crawling in countless numbers upon the parched earth. This day of heat and drouth, so uncomfortable to man, is a very paradise for insects, the high festival of the year. They are seen upon the stalks of grain and grass, upon leaf and bough, swinging in the summer air, or poised upon their wings, mocking the sunshine with their glittering hues. While work is most a drudgery with man, and he literally eats his bread in the sweat of his face, it is all holiday with them, a perfect carnival of delight.

"All day they're playing in their Sunday dress,
When night reposes they can do no less.
Then to the heathbell's purple hood they fly,
And, like to princes, in their humbers lie
Secure from pain, and dropping dews, and all
On silken beds in roomy painted hall.
So merrily they spend their summer day,
Or in the corn fields, or in new mown hay."

Why is it that tiny creatures swarm in such multitudes, and at times destroy the harvests of man? Always they prey upon his labors, and are a serious hindrance to his work. Whatever the defects of soil, and climate, they oppose no such obstacle to fruit growing, or to the raising of grain, as these insignificant depredators. What boun-

teous harvests of wheat we might have, if the weevil, the midge, and the fly, could be consigned to their graves; what crops of hay, if the worms would let the roots of the grasses alone! If we plant the plum on any but a clayey soil, the curculio lies in wait to puncture every fruit, and make it the cradle of his offspring. If we set out apple and pear trees, bugs beset the trunks, and soon cover them with scales as if they were monsters of the deep. The peach, the quince, the cherry, the currant, the gooseberry, has each its enemy, as if Nature had sent an executioner with the sentence of death upon the track of every living thing. Why is there this seeming inconsistency in the arrangements of the creation. Why do we have these precious gifts bestowed, only to be snatched from us by these depredators?

We find in every department of nature a nicely balanced system, one race of creatures set over against another to keep each other within the limits which the Creator has assigned them, and at the head of this system is man. He has intelligence capable of understanding the designs of the Almighty, and of co-operating with the divine plans, or of thwarting them. In the sea, over which man has little control, the balance between the various tribes of fishes is kept up with little variation. If any race is materially diminished, it is that which visits the rivers and small streams for the purpose of depositing its spawn, and thus comes within the reach of man. The tribes that are voracious are less prolific, so that they are not unduly multiplied, and those which constitute the prey of others are made more abundantly fertile, and by instinct deposit their spawn in secure places. Thus, life in the sea moves on harmoniously, and no race becomes extinct until it has accomplished the work assigned to it by the Creator.

Man has interfered with the arrangements of Providence in regard to insects in two ways. Their supplies have been cut off, so that instead of feeding upon the forests and shrubs, they are now forced to feed upon cultivated crops. The forests once covered the whole country nearly, and every one must see the effect upon insect life of cutting off three-fourths or more of their natural pasture grounds. At the same time that there has been this reduction in the supplies of the insect tribes, the birds, their natural enemies, have been almost exterminated. They were designed to check the enormous multiplication of insects, and to be taken under the protection of man—for the sake of their aid in protecting him in the enjoyment

of the fruit of his labors. Instead of receiving this protection, many of the birds have been proscribed by law, and a price set upon the heads of crows and black-birds, as if they were the enemies of man. Vagabond boys have had a special commission to destroy them with powder and lead, as if they were doing the world a service. So greatly has the stock of birds been reduced, that cultivators are beginning to be alarmed, and in some of the States they have already secured wiser legislation. But it will take many years before the natural balance between birds and insects can be restored.

There are, doubtless, moral lessons underlying these facts, but it is not our purpose to discuss them here. Meanwhile man must do tardily, and with infinite labor, what were better done by the myriad songsters of the grove and the meadow, until these have regained their place in our fields and gardens. Man holds the balance of power, and may, through the birds, keep the insect tribes in check, so as to secure his harvests.

The swallows and martins, that find congenial society in man, should be encouraged to take up their abode around our barns and dwellings. They devour swarming insects, wasps, beetles and goldsmiths. It is estimated that a single bird will devour five thousand moths in a week. The sparrows and wrens prey upon insects in another stage of their existence, when they first come out of their eggs, and lurk within the buds, leaves, and flowers of plants. The thrushes, crows, blue-birds, jays, and black-birds devour butterflies, grasshoppers, crickets, locusts, and the larger beetles. In a season of three months, a single family of jays will destroy at least twenty thousand insects. This gives us some idea of the effectual check which birds put upon the ravages of insects. Now in "fly time," while the whole air is redolent of their murmurings, we would stir up the pure minds of our readers to think of their depredations, and to devise methods to destroy them.

EXAMINE YOUR TREES

for the evidence of their ravages. It is surprising to see how ready farmers are to pay cash for trees, and to plant them well, and how careless they are of their after treatment. They take it for granted that the crop of fruit is sure, as soon as the tree is set. It is not so. The work is only well begun. Trees should be treated as personal friends, looked to, visited, and flattered with particular attentions. Inquire after their health, and a response will come from the bark, the

twigs, and the leaves. Is the trunk smooth, indicating that the owner has applied strong soap-suds recently, and routed the moss and the countless progeny of scale bugs? There is sawdust around the collar perhaps. Investigate the hole with a wire, and smite the borer with a fatal *bore* under the fifth rib. Is the new wood strong and healthy; and the foliage luxuriant and glossy? You will find many curled and dead leaves, perhaps, and within the folds a whole brood of eggs, or a crawling grub. Kill him, as you hope for fruit next year. Turn pigs into your orchard to eat up the early dropping fruit. Every worm-eaten apple is a pest-house—destroy it. Scrape off the old bark, that serves as a refuge for the moths and their eggs; and bear it in mind, that all these labors and appliances will but imperfectly do the work of birds.

THE TIMELY SAVING OF SEEDS.

Do not wait till they begin to shell from the pod before you gather them. They are perfected even before the pod or husk is dry, and the drying process will go on quite as well under an open shed as on the stalk. Cabbages, turnips, beets, and some other vegetables have already formed their seeds and should be immediately secured. Have a place for them, and let them be bagged, and labeled, as soon as they are sufficiently dry.

DRYING SWEET CORN.

As you are luxuriating this month in that delicious compound, succotash, remember the dearth of next winter, and lay in a generous supply of this inspissated article. The beans will take care of themselves well enough, but the corn requires skill to evaporate its water, and leave behind in the kernel its sugar, starch, and gum, and those essential oils which lend their charm to the dish of corn and beans. Take the corn when in its best condition for this purpose. If too old upon the stalk, it will be too old next winter when dried. Juicy, plump ears, when the milk is richest, should be selected. They may be dried in the green state or boiled and then dried. In either case scrape the corn from the cob and dry upon sheets in bright sunny weather, and finish off in pans in the oven, or over the stove. When the drying is once commenced the evaporation should be kept up until it is finished. Sweet corn, soured in the drying, is ruined.

STRAWBERRY BEDS

should be made this month, if they have not already a place in the garden. This delicious fruit is scarcely more difficult of cultivation than the potato, and every farmer ought to have a generous supply for his own table, if he do not cultivate them for market. In the back numbers of this volume he will find full directions for preparing the beds, and setting the plants.

BUDDING.

It is a very easy thing to put new tops upon young trees by this simple process. It is best done upon trees of a year or two old; but by taking young sprouts old trees may be furnished with new heads. A bundle of buds, a sharp budding knife, and bass wood matting, or woolen yarn, will furnish you for this work. The shoots from which the buds

are cut should be of this year's growth, and taken from the top or bearing parts of the parent tree. A day or two after a rain, when the sap is running freely, is the best time to insert the buds. All the cuts upon stock and bud should be made with a very sharp knife. Full directions were given in last month's *Agriculturist*.

THE APPLE WORM.

Now that the curculio and black wart have got such control of the plum tree, and the pear and cherry suffer so much from our severe winters and various diseases, men are beginning to feel that they must fall back on that old stand-by, the apple. Our own observation, this summer especially, of blasted pear and cherry trees, leads us to feel thus inclined. But the apple tree is not without its enemies and diseases. We allude now particularly to the worm,—not the caterpillar which infests the branches and preys upon the leaves, but what is known as the apple-worm or "Codling moth," appearing first in Spring as a miller, depositing its eggs in the calyx or eye of the young fruit, from which a grub is hatched and eats into the center of the apple. For several years past this pest has been increasing its ravages. In all quarters, last fall, fruit which appeared sound and fair to the eye, was found perforated by the worm.

What, then, shall we do? Certainly not sit down in despair and leave the time-honored and long loved apple to follow the other fruits so abundantly preyed upon. The apple-worm can be destroyed and he must be. Now, at this very season of the year, operations may be begun. Small, immature fruit is now beginning to fall from the trees, and will continue to do so until autumn. These apples contain worms and should be destroyed immediately. When one has only a few choice trees in his door-yard, these apples can be picked up, (children's little fingers are just the things for this work,) and fed to the pigs or cooked to destroy the insect. In large orchards swine should be allowed to run, which will eat up nearly all the punctured fruit as fast as it falls. Early in spring is another season for attacking the worm. At that time he may be caught napping in the shape of a moth, rolled up in a cocoon in the crevices of the tree, where he has spent the winter. The killing of these worms should be made a part of every Spring's work.

Another very good method has been recommended, viz: to suspend quart bottles, half filled with sweetened water, by straps from the branches of the tree. This trap must be set early in summer, while the marauder has on his wings. In the course of a few weeks multitudes will take to the bottle, and find hard drinking prove their ruin. Some orchardists try fire by night, in connection with sweetened water by day. They kindle small bonfires of straw or shavings in their orchards, one or two evenings a week, in June, and the apple-miller, like others of the family, flies into the fire and perishes. The tar flambeaux spoken of on page 135 of the June number recommended burning for a

CALENDAR OF OPERATIONS.

AUGUST, 1857.

[We note down a summary of various operations, many of them very common ones, it is true, but a simple catalogue like this will often suggest a piece of work that would otherwise be forgotten. The Calendar is adapted to the latitudes of 40° to 44°. A little allowance must be made for each degree of latitude—later north—earlier south. This table will be made out anew every month, and adapted to the season of each year.

EXPLANATIONS.—The letters, f. m. l., refer to *first, middle, and last* of the month.

Doubling the letters thus: ff., mm., or ll., gives emphasis to the particular period indicated.]

FARM.

The present is, by some, called a month of leisure, but the thrifty farmer will see enough to occupy his time. His business is not as pressing as during "hay and harvest," and he may properly enjoy a little relaxation with his family, and let the boys "go fishing." But his farm crops must not be neglected, and now is a favorable opportunity to collect and compost manures for winter grain and Spring crops of next season. "A penny saved is two pence earned," should be borne in mind by those who spend large sums annually in the purchase of foreign manures.

Among the things requiring attention is the cutting of Bushes along hedges and in pastures. Bushes "whipped" during this month will not sprout readily.

Butter and Cheese making will form a very important part of "household labors," in all of which neatness is an essential requisite. For directions see July number, and on another page.

Cabbages—Late ones may still be planted out if on grounds already free, or soon to be cleared of early crops.

Cattle—See that their grazing lands are sufficient. Give milch cows a little of the soiling crop each day to keep up a good supply of milk, especially if it is for market. A handful of clean wood ashes, mixed with as much salt, given to each animal every week is a good preventive of "murrain."

Corn—Keep the fields free from weeds, but do not plow or cultivate so deep as to injure the roots at this season. Early plantings for forage may be gradually cut and fed.

Cotton—Prepare baskets, sacks, gin stands, presses, &c., in the early part of the month, that there be no detention when the picking season commences at the south, about the middle of the month.

Draining—Reclaim swamps, and double the value of wet lands by thorough drainage. Read the chapters in former numbers.

Fences—Keep in good repair. Do not invite your cattle to become unruly by leaving a bar down here, a rail or board off there, and a broken down wall in another place.

Forests—The present is a favorable month to cut off forests for the purpose of bringing them under tillage. After removing the larger wood, spread and burn the brush m. l. for a crop of rye or wheat.

Hay—Cut Salt and Sedge, selecting neap tides in order to remove it without being flooded. Stack upon high grounds or give it barn room.

Hoing should not be neglected as long as weeds continue to grow.

Hogs—Keep their pens and yards well supplied with manure materials, and compel them to contribute in part towards their support as manufacturers. Store hogs may continue in pasture or orchard, but those for early fattening should have a smaller range and more feed.

Manures—Pay particular attention to their manufacture, collecting from the woods, muck swamps, ponds and road-sides, everything valuable and compost with fish and sea-weed. Keep hog and cattle yards covered with muck and collect the droppings each morning throwing them in a heap under cover. Read article in present number on the "drainage of cattle yards and Hints for the Season," on another page.

Millet—Commence cutting for milch cows ff. Secure the whole crop before the seed hardens, unless the grain is wanted.

Muck—Dig in dry weather and cart a goodly supply to your yards and stables, as recommended elsewhere.

Oats—Complete harvesting ff. Do not allow them to get too ripe, thus injuring the straw for feeding.

Pastures—See that the feed is sufficient for grazing animals. A frequent change of grounds is beneficial.

Plow deep for winter grain m. ll. manuring wel.

Potatoes—Early plantings are now ready for market and the ground may receive a crop of cabbages or turnips.

Poultry—Look to, especially if confined in houses and yards. Keep the roosts and nests clean, and if troubled with vermin, dust the fowls with flour of sulphur. Line the nests with tobacco leaves to expel lice from setting hens.

Rice—Complete cutting at the South, m. l., shutting off the water for a week or ten days previous to harvesting.

Root Crops—Keep the ground free from weeds and well stirred between the rows.

Rye—Complete harvesting both winter and spring varieties. Sow winter crop ll.

Seed Wheat, Rye, &c.—If all foul stuff was pulled from the seed patch, it will only be necessary to thresh with flails, and sift out the small shriveled grains. See article on "Saving Seed Wheat."

Sheep—Protect from dogs by placing bells upon a few of the flock, the jingling sometimes frighten dogs.

Stone Fences—Build as opportunity offers, using up the stone and securing a good permanent fence at the same time.

Sugar Cane—Cut a portion of the Chinese and feed to milk cows or cure it for winter use. If cut f. m. it will make a second growth of similar size for late harvest. See article in this number.

Timber—Cut during this month if the best preserving quality is sought.

Timothy—Sow with rye ll. if this crop is used to seed down with. Next month will be in time for the main crop.

Tobacco—Commence harvesting when the leaves have acquired a mottled, gummy appearance and break when doubled over.

Turnips may still be sown ff. among corn and potatoes, or after early crops. Flat or cow-horn varieties should be used instead of ruta bagas for such late sowings. Cultivate, hoe and thin former plantings.

Weeds—Make into compost, or feed to swine instead of raising for seed, particularly about the manure heap.

Wheat—Cut Spring varieties at the north m. l. Prepare grounds ll. for early sowing next month. Winter wheat may be sown this month. Nature sows for the next crop as soon as the old one is ripe.

ORCHARD AND NURSERY.

The fruit grower is now reaping the reward of his persevering labors, in the luscious Peaches, Plums, Early Apples and Pears, whose sunny cheeks and sweet aroma gratify both the eye and the palate. Well may he feel a laudable pride as he views his fully loaded trees, the branches of some of which he has had to support to prevent their breaking under the weight of a heavy crop of large sized perfect fruit, and he now feels amply paid for the extra care bestowed upon his orchard by way of manuring, pruning, cleansing the trunks, destroying insects and thinning the fruit.

In both Orchard and Nursery the Summer pruning commenced last month, may be continued during August. The chief work of the Nurseryman for the present, however, is

Budding—Which should be continued on the different varieties as the state of the stock and ripeness of the buds indicate the proper season. It is useless to attempt budding when the bark of the seedling will not separate readily. Those inserted last month should be examined in about three weeks after the operation and bandages loosened if necessary. Rebud if the first has failed to unite.

Caterpillars—Examine for late broods of these, and check their ravages at once.

Fallen Fruit—Collect by hand, or allow swine a range of the orchard. Cook all that falls prematurely, to destroy the worms remaining in it.

Fences—Keep in good repair, as cattle are fond of nipping off the new growth if an entrance can be obtained to the grounds.

Hoeing of Nursery grounds should not be neglected this month, nor should the soil about newly planted, or even other fruit trees nourish a crop of weeds.

Inarching—This is the proper season for performing the operation upon many trees and plants. See full directions on another page.

Insects—Keep up the torches, and suspend bottles as per directions already given.

Layer shrubs, trees and vines, as treated of in a subsequent column.

Peaches will need gathering and marketing during the early part of the month. Pick before they are soft, else they will bruise in transporting.

Pears, particularly early varieties are now ripening and should be gathered and laid upon shelves or sent to market while firm. The flavor is not injured but rather improved by picking before fully ripe and maturing them in houses.

Pruning—Complete f. m. We strongly advise summer and fall pruning in preference to deferring it till winter or Spring.

Seedlings of all kinds should be kept free from weeds. Shade the evergreens, and other varieties liable to burn off, by a partial screen, or place them under the branches of trees.

Stones or pits—Collect and put in the ground or in boxes of moderately dry sand or earth. If long kept in a dry state they will rarely vegetate.

Thin late fruit ff. if not already attended to.

Vines—Continue to train new growth, and layer for an increase of stock.

Weeds—Give these to the *hoe* or *hogs*, instead of their taking both *food* and *drink* from your grounds.

KITCHEN AND FRUIT GARDEN.

The planting season is nearly over and attention to the growing crops will claim the gardener's chief labors. Any spots rendered vacant by failures or removals of early crops may, however, still be sown to Dutch turnips, or planted with late Cabbages. Soil is not like a jaded horse which needs rest after performing a journey. Give it a good coating of manure, with a thorough plowing or spading and it is as willing to produce a second crop as it was the first. It should not be allowed to spend even the remainder of the season in idleness while there is an increasing demand for almost every cultivated vegetable production. A glance at the table below will call attention to most of the garden products, commencing with the

Asparagus Bed, which should not be given up to weeds now that its season for usefulness is over. Keep it as clean as heretofore for the future benefit of the bed.

Beans—Early Kidneys may still be planted ff. except at the far North.

Beets—Thin those sown last month. Early ones are ready for use. Pull from the thickest parts of the bed.

Cabbages—Cauliflowers and Brocoli—Plant ff. for late use, if they were not all put in last month. Keep grounds well stirred about former plantings.

Celery—Put out the remaining crop ff. wetting both the trenches and the plants after setting. See treatment on another page.

Corn Salad—Sow ll. for winter and spring crop.

Currants and Gooseberries—Prune m. l. cutting out old decaying wood. Head back, and shape to a tree form, as seen on page 112 of May number.

Espalier or Wall trees—Regulate branches, and prune if necessary.

Grape Vines—Read chapters on.

Herbs—Complete gathering, cutting while in full flower. Dry and pack in tight boxes or bottles after sifting.

Hops—Pick during dry weather as they ripen. See article on their culture.

Insects—Continue to destroy those injurious to vegetation as per directions of last month.

Lettuce—Sow and plant out f. m. l.

Mushrooms—Collect spawn ff. and make beds m. l.

Onions—Sow ll. for sets to plant out next spring.

Peas—Sow ff. for late. Clear grounds of the haulm or straw of early crops and resow with peas or turnips.

Radishes—Sow f. m. l. for succession.

Raspberries—Cut out bearing canes which have ripened their crop. Collect and house the stakes.

Seeds—Collect as many as possible and preserve them in dry places, labelling with care.

Spinach—Sow f. m. l. for Autumn use.

Strawberries—Make beds and plant at any time during the month, mulching and watering freely.

Tomatoes—Stake or bush ff.

Turnips—Sow Ruta Bagas ff. except at the North where Dutch varieties will succeed best at this season. Read chapters in last number and on another page of the present issue.

Water—Give slops, wash water, &c., to currant bushes, strawberry beds, and newly planted vegetables.

Weeds—Raise *vegetables* instead of a crop of *weeds* to impoverish the soil, and leave seed for future toil or labor to exterminate.

FLOWER GARDEN AND LAWN.

Many of the directions given last month will apply for the present. Annuals now present a fine show of bloom, and late perennials succeed the early flowering varieties. The principal labors in this department should now be directed to keeping the grounds clean and attractive, and the soil loose about the plants. Many of the potted plants brought from the houses in June and July, will require a shift into larger pots.

Bulbous Plants—Those intended to be removed this season should be lifted ff. if not done last month. Some of the earlier blooming varieties, such as Snow Drop, Crocus, Iris, &c., may be planted ll. although next month will be in season. Now is a proper time to sow seeds, for new varieties.

Carnations and Picotees—Continue to layer ff. m. Separate and plant out former layerings which have rooted, watering freely.

Chrysanthemum—Layer f. m. those intended to propagate. Stake f. m.

Clarkia and Coreopsis—Sow in pots or on warm borders ll.

Dahlias are now the "Pride of the Garden," if a goodly number of various colors were interspersed at planting time. Stake to prevent injury by winds or storms, and prune off superfluous branches. Frequent waterings, and a mulch about the roots improve the appearance of the bloom.

Flower Stalks—Cut away perennials and biennials as fast as they complete their bloom, and remove annuals entirely, giving the space to later varieties.

Gravel Walks—Hoo or weed often, raking smoothly.

Hedges—Clip m. l. unless it was done during the latter part of last month.

Hoe often all cultivated grounds, walks, &c., removing the weeds with the rake.

Hollyhocks—Propagate by suckers, or cuttings of the same.

Insects—Do not allow them to increase even if they are not as troublesome as earlier in the season. Continue the Whale Oil Soap mixture for slugs on rose bushes. A dusting of lime or wood ashes will accomplish the same purpose.

Lawn and Grass Edgings—Mow evenly every two weeks and rake off.

Pansies—Plant seed ff. for Spring bloom. Continue to layer and remove those which are well rooted.

Perennials—Fibrous rooted, such as Sweet William, Scarlet Lychnis, Ragged Robin, &c., may be parted and transplanted m. l.

Potted Plants—Loosen the earth on the surface of pots, and remove any decayed leaves.

Prune Shrubs and Trees upon the Lawn, or borders, if necessary, always using the knife sparingly upon shade trees.

Roses—Continue to bud and layer ff. m. See article on layering.

Seeds—Collect as they ripen, and save as directed last month.

Ten Week Stocks—Sow m. l. for early Spring blooming.

Transplant any late annuals still needing it, watering thoroughly both before and after setting. Shade for a few days if dry hot weather succeeds.

Verbenas—Layer ff. m. for winter and Spring blooming in houses.

Water—Give to potted plants especially, and those newly planted out. If very dry an application both morning and evening will be beneficial to those which absorb rapidly. It is better to mulch the ground before watering. Weeds should only be found in the Flower Garden in the shape of *native wild flowers*, many of which are worthy of a place here.

GREEN AND HOT HOUSE.

A large number of plants are still in the Flower Borders, or in pots in the open air and are treated under "Flower Garden." Those remaining will need abundance of Air each day, unless the weather is unfavorable.

Annuals—Sow Mignonette, Clarkia, Coreopsis, &c., for Winter flowering.

Azalias—Give plenty of air and water, syringing frequently. Shade from hot sun.

Budding—Complete f. m.

Bulbs—Pot a few m. l. for winter forcing.

Callas—Repot f. m. watering moderately.

Camellias—Repot, bud and inarch f. m. Syringe and water freely.

Chrysanthemums—Shift into blooming pots, giving liquid manures.

Cuttings of succulent plants make f. m.

Earth in Pots—Loosen or stir, renewing where necessary.

Fumes of Tobacco—Give to houses containing green fly, apis, &c.

Gloxinias—Those done blooming may now "dry off."

Grapes—See Chapters on.

Houses—Commence early to put them in order, before plants are brought in. Repair shelves and beds, glaze windows, cleanse the whole house thoroughly, have ropes weights and pulleys in working condition, look to the heating apparatus, and lastly paint those houses requiring it, being careful to empty them from all tender succulent plants at the time, else the poisonous gas from *new paint* will cause defoliation.

Insects—Allow none to increase as the brooding season draws to a close. Fumigate, syringe with pure water and the Whale Oil Soap mixture.

Labels—Prepare for all potted plants, writing both *generic* and *specific* names upon a painted surface.

Layering and Inarching—Continue f. m. as directed upon another page.

Oranges, Lemons, Shaddocks, &c.—Complete budding ff. m.

Pelargoniums—Repot and make cuttings of ff.

Potting—This is the appropriate season for shifting generally, and potting off seedlings. Complete early, that they may become established before winter.

Seeds—Watch the ripening of and collect ff. m.

Stake weak shoots, and turn often.

Tender Plants, and those for early winter bloom. Take in ll.

Verbenas, Petunias, Geraniums, &c.—Layer and make cuttings ff. m. for winter flowering. Pot off those made last month.

Water—Give abundantly inside, and to pots in the border. Syringe the foliage and walls of the house both morning and evening, sprinkling the floors at the same time.

THE CHIEF AIM IN FARMING.

There are many cultivators of the soil who seem to have no well-defined purpose in their husbandry. They have no plans laid far ahead, which they are seeking to realize in their practice. They exist rather than live, are listless in their efforts, and effect no beneficial changes in the soil they attempt to cultivate. Everything about them wears the aspect of decay. The farm buildings are never repaired, while it is possible to get along without it. You can see the gaps in the roof, where the winds have blown off the shingles, and the missing boards and swinging clapboards from the sides of the building. The fences are never re-set, no stones are dug from the mowing fields, and no drains are made in the swamps and low lands. They simply contrive to get along, their land and themselves growing poorer every year.

There is another class, who have purpose and energy enough, but it is not wisely directed. Their aim in farming is to get the most possible out of the soil, and to put the least possible back, in the shape of composts and fertilizers. Their whole farming operations are based upon the theory that the soil is a living well that will always send forth its waters as long as there is anybody to draw. They plant and sow as long as they can get remunerative crops, and then either sell out, or resort to concentrated fertilizers, which stimulate the soil to part with its last elements of fertility, and leave it nearly barren. They are generally energetic men, work hard, and push their help as hard as they do their acres. They plant a very large breadth of land, and in a few years exhaust a whole farm. They do not believe in plowing in crops, or in making composts, or in saving the stable manures. They can not see any utility in carting dirt into the barn-yard, and then carting it out again. It looks like a waste of labor. If near the shore, they rely upon fish to stimulate the soil when it fails to produce otherwise, and thus crop after crop of grain and grass is taken off, until the land is exhausted of its carbon, and runs to sorrel. If inland, they rely upon Peruvian guano, which in a few years serves the soil in the same manner. The theory of these farmers is to get great crops, at whatever expense to the land. This is the skinning method of farming, and the more energy these farmers have the sooner the land is ruined.

Now, we believe the chief aim in all good farming to be the improvement of the soil until it reaches the point where maximum crops are produced at the least expense. Wise husbandry regards the farm simply as a machine for turning out crops. The machine is the matter of first importance. This is always to be kept in good running order, and its efficiency is to be increased by all economical methods. The man who farms upon this system will never sacrifice soil for a great crop. His aim is to have every crop taken off, leaving the land in a better condition than he found it. He aims in every working of the soil to increase its

depth, and to add to it more elements of fertility than he removes in the crops, and to make the crops not only pay for themselves, but to pay for the improvement of the acres upon which they are grown.

In carrying out this aim, so as to realize these results, a man shows his skill as a cultivator. It is a comparatively easy thing for any one, who has money, to improve the soil so that it shall produce crops paying for the labor of growing them, and the interest on two or three hundred dollars an acre. Stable manure enough well plowed in will do this. But it is altogether another matter to make this improvement pay for itself. Yet it is a possible thing to do this, and there are farmers skillful enough to accomplish this result, and this we hold to be the true aim in the cultivation of the soil.

All good farming, then, must look to a permanent occupation of the soil. Economical improvements can not be made in a single year. The most judicious improvements, those which finally pay the largest profits, require several years to bring in their full returns. It is a matter of great importance that our farming population should not only be settled, but that they should feel settled, and plan all their operations upon the farm as if they expected to spend all their days upon it.

Here is a ten acre lot now in mowing, cutting ten tons of hay, worth one hundred dollars. It has in it some stumps, more boulders, some brush by the wall, and a few wet places, growing nothing but sour grasses and flags. It can be cleared of all obstructions, be underdrained, subsoiled and manured, so as to produce three tons of hay to the acre for the sum of say one thousand dollars. It will not pay the present occupant to do this the coming year, if he is going to sell out the year following. But he may accomplish all this economically in five years, furnish profitable employment for his help, introduce the mowing machine, and cut more fodder upon the field than he now cuts upon the whole farm. He may get crops enough from the field during the five years to pay for all the improvements, leaving the increased value of the land, certainly not less than a hundred dollars an acre, as the reward of his skill in husbandry.

This is an illustration of what a farmer's aim should be, and a good example of the kind of improvements that are needed upon most farms, at least upon the seaboard. The fields want to be cleared of rocks, the swales need deep underdrains cut through them, with smaller side drains running into them at right angles; old walls want removing, and the fields enlarging to ten or twenty acres; the whole surface needs to be thoroughly worked and manured, so as to produce maximum crops. By this thorough method, horse labor may be substituted for that of man, so as to save full one half of the present expense of raising and harvesting the crops. In smooth land, nearly all the planting and hoeing can be done by a horse; all the mowing, reaping, cradling and raking can be done by the same method.

The man who will lay his plans wisely to

improve his soil, making this his chief object, and who will judiciously expend his capital in the improvements we have indicated, is in a fair way to gain a competence. This kind of farming, in the long run, will pay amply, and we believe more surely than any other business. The skinning process, which is reckless of the soil, and looks only to the crops, is bad policy both for the farm and its owner. Let it be abandoned.

HINTS FOR THE SEASON.

At this season of the year, many of our readers are, with us, noting the results of good farming. The dog-star is in the ascendant. Long, hot, dry days succeed each other, rapidly carrying off the moisture of the soil which many plants need for their healthy growth and maturity. In some places the corn crop is checked in its growth before the ears are filled out; pastures are turning brown, and crisp under the tread of the foot; some fruit trees are in a suffering condition, and gardens and ornamental grounds are less attractive than in more favorable seasons.

1st. But we have observed one thing during this dry weather which, though not new, yet needs frequent mention, viz.: that the best tilled lands suffer least from drouth. We daily pass several fields which were subsoiled and thoroughly manured last Spring, and the crops on them continue to grow with great luxuriance, their waving leaves seeming to beckon defiantly to the drouth to come on and do its worst. Fields near at hand, with as good natural position and soil as the other, but which were hastily and superficially tilled, are now drying up for lack of moisture. They looked about as well during the plentiful rains of Spring and early Summer, and seemed to offer a premium for poor farming; but now, alas, they are a sorry sight! They are a mortification, a reproach, and a pecuniary loss to the man who owns them.

We are by no means disposed to push this matter of high farming to an extreme, and to insist that every field shall be trench-plowed and manured regardless of expense; but we do say that most land should be more thoroughly plowed than they now are, and that what is annually taken off in the shape of a crop should be returned in the shape of manure. Lands well treated dry sooner in Spring, retain their moisture and fertility better in midsummer, and yield larger and better crops. No observing man can open his eyes without seeing this. Brother farmer, the present we know is not the time to remedy any mistakes you may have made in tillage, but it is just the time to feel them deeply, and to make note of them for future profit. Bear, then, with our "line upon line," and while the aspect of the farms around you enforces our exhortation, resolve to practice accordingly the next season.

2d. Our second hint for the times grows out of the first, and relates to the gathering of materials for the compost heap. It is often recommended to collect muck in Winter, because that is a season of comparative leisure. It is well to draw it from the swamp

then, but now is the time to dig it out and throw it up into heaps to dry for Winter transportation. When lying in its native bed in the swamp, it is full five-sixths water. What a waste of labor, then, to raise and haul it in that state to the barnyard! Dig it out now, while the swamps are comparatively dry, throw it into heaps, cover them if possible, and in Winter it will be in fine condition for removal. Have you no swamp to draw upon? Perhaps, then, your neighbor has an inexhaustible supply, where you could easily purchase a right to dig. Save the chips and refuse dirt from your wood-house and log-heaps, collect turf from your low and wet pastures, or from the side of fences where the plow and hoe cannot reach in the ordinary course of cultivation.

3d. Another reasonable hint, suggested by the last, relates to the draining of swamps and low lands. Now is the best time in the whole year for doing this. In Spring or Fall, the labor would be greater, as well as a hundred fold more unpleasant. Such lands, where there is a great flow of water at certain seasons, require open drains, at least for the main ditch. Branches running into this central channel may be made with tile, or stones. In digging the main, open ditch, it is important to make the sides of it quite sloping to prevent their caving in and filling up the water-course. We have seen such lands, which previously were almost worthless, made the best part of several farms.

4th. Take good care of the manure heap during the Summer. Too often, during the busy Summer season, the cleanings of the pig-sty and stables, and the various refuse matters accumulating in the rear of one's premises, are suffered to be exposed to the sun, wind and rain, both wasting their most valuable properties, and filling the air with a noisome stench. We have often urged the gathering up and preservation of all fertilizing materials, such as bones, chips, weeds, old plaster and lime, kitchen slops, &c., and we now repeat the exhortation. Let all these things speedily find their way to the compost heap. And that heap itself should be looked after. If on the north side of the barn, it will be better off than on the south. And if covered it will be better off still. Such a covering can be made without much trouble or expense. Set in the ground, six, eight, or more posts, according to the expected size of your heap, and throw over them a shed roof of boards or slabs, sloping to the south. Board up the shanty on three sides, leaving the north open. Now, see to it that a generous pile of muck, or its equivalent, is deposited just outside of this shed, and you will be ready for operations. Wheel in manure from all quarters as fast as it accumulates, and lay it in rows or heaps the whole length of the shed, treading it down firmly, and covering it with successive layers of muck. In this way, the manure will be preserved from the action of the elements, and the volatile gasses which the Summer heat so rapidly evolves, will be absorbed and saved. If any one thinks this won't pay, let him—try it and see.

SEED WHEAT.

Before the 10th of September, most of the wheat that will yield a good crop next year will be in the ground, and the value of the crop will depend greatly on the character and condition of the seed. The importance of this great staple, and the distress resulting from a diminished supply of it, entitle all the aids in its production to a careful study.

SELECT GOOD SEED.

1st. Choose a kind which has succeeded well in soil and climate *similar to your own*. Intelligent neighbors, who have raised good wheat, can help much in this matter. It is not well to try new experiments on a large scale, unless one is prepared to risk a considerable loss.

2d. Accept only that seed which is perfectly *ripe and plump*. Let no man impose on you by saying that smaller kernels will produce a greater number of plants from a bushel of seed. What is wanted is a strong vigorous growth of wheat plants. This you cannot effect from half-grown or shriveled seed.

3d. Never sow any but the *cleanest seed*. You can tell by examining it what its condition is. If the seed is good in other respects, but is foul, clean it yourself. But be sure to have it clean at all events.

4th. Reject seed that has been kept *damp*, or has been *heated*. Seed that suffered either or both of these injuries may germinate, but it has lost a part of its vitality, and should never be used for seed it better can possibly be secured.

5th. Do not sow *mixed* seed on the same ground. Let the seed of one sowing in the same field be of one kind *alone*. You will thus know what kind you are growing, and be able to compare results, with an approach towards accuracy.

6th. If possible, never sow seed which is more than one year, or at most, *two* years old. Old seed *may* grow well. But it may not. Prudence will suggest that seed should be used before it has been exposed to decay, to insects, to dampness, or to other injurious agencies. Experience has taught that some of these are likely to injure the kernel, if it is kept after the first year.

One way to get good seed is to select the cleanest and best spot in your wheat field, where the grain grows most perfectly and is most mature. Then harvest and thresh these portions separately, with the greatest care, and save the seed for sowing. Pursue this course for a number years, and you will produce what will seem to be a new variety of wheat. But it will only be the same, developed and perfected in a higher degree. This operation for securing good seed will pay in every department of farming and gardening.

A good mode of preventing smut is the following: Spread seed wheat on the barn floor. Upon four bushels of wheat dash from 12 to 16 quarts of human urine. Stir the whole well together. Then add about six quarts of fresh slacked lime, and shovel the wheat over till the lime is evenly diffused in the wheat. It should be sown as soon after this preparation as practicable; for a long delay would injure its vegetative powers. This mode of treating seed wheat is deemed, in England, a *specific* against smut. It has been practised in America also by some wheat growers, who say it has been uniformly successful. Tar water will answer instead of urine, and is preferred by many.

The farmer who will select and prepare his seed wheat according to the above suggestions, will greatly increase the chances in favor of his having a fine crop next year.

POTATO VINES AS A MANURE.

A new inducement for the cultivation of this crop may be found in the value of the tops as a fertilizer. It is well known that all vegetable substances become the food of other plants when they decompose, and that it is good economy to save all vegetable wastes upon the farm for manure. In some plants large quantities of nitrogen, potash, &c., are concentrated, so that they approximate in value to animal wastes for manure. It has been well known for a long time that rape cake and cotton seed are good fertilizers. From some experiments that have lately come under our notice, we are inclined to think that the vines of the potato may be added to the list of concentrated vegetable manures, and that the part of the potato crop above ground, so generally considered worthless, may prove to be no inconsiderable part of its value. It has been our practice for years to put the tops of this plant, when the tubers were dug, immediately into the compost heap, since chemical analysis shows that they contain a large per cent. of potash. We see in the last report of Secretary Flint to the Massachusetts board of Agriculture, that a practical farmer in Norfolk County has been applying them as a top dressing to grass land. This farmer says "for several years we have been in the habit of raising from one to three acres of early potatoes for market. We have usually dug them early in August, and before the tops were dead. The tops are taken directly from the field, and spread on the mowing lands to very great advantage. We think the tops from an acre of potatoes sufficient to top dress an acre of mowing land, and the effect is equal to three or four cords of good manure.

It is a well-ascertained fact that the stalks of the potato are rich in the organic elements of plants. Fromberg's analysis gives in 100 pounds of the leaves, in their natural state, 5.12 to 5.76 per cent. of nitrogen, and in the same weight of leaves dried, 82 to 92 per cent. of nitrogen. According to the statement of this reliable chemist, every ton of potato tops saved would add to the soil 59 pounds of inorganic salts and twenty pounds of nitrogen. This would make a ton of them worth more than two tons of Ichaboe guano.

It is doubtful, however, whether the Norfolk farmer has adopted the best method of using them. In spreading them upon grass land, in their green state, in the dog days, a large part of the nitrogen must be lost. A much safer mode would be, as soon as the potatoes are dug, to remove them to a heap and compost them with muck or loam. We have always noticed that such heaps are very soon thrown into violent fermentation. This would be a good way of decomposing coarse sods from swamps and marshes. All the ammonia evolved from the vines would be saved in the muck, and a large quantity of valuable compost would be prepared at a small cost.

This suggestion of the value of these tops for manure is worthy of careful trial by all who cultivate this crop.

GOLD MEDAL OF THE U. S. AGRICULTURAL SOCIETY.

We present herewith a copy of the face of the new "Grand Gold Medal" of the above Society. This medal is just of the size of our cut. We see on the face Ceres, who was, according to the ancient heathen mythology, the goddess of Corn, and the patroness of those who cultivated the earth. Seated on a throne, in her right hand, which is extended upward and forward in an attitude of invitation, she holds a wreath of honor; in her left the sickle—emblem of agricultural industry. In her lap are gathered various fruits. Her brow is crowned with the star of Empire, and her expressive countenance manifests her dignified rank as the impartial disposer of awards to the competitors. Around the rim of the medal is the classic wreath of laurel.

Reverse Side.—The opposite side of this medal is ornamented simply with a wreath of plants, the productions of the grand divisions of the United States, emblematic of the National character of the Society. On one side are the Sugar Cane and Cotton Plant, on the other Indian Corn and Wheat, and, at the bottom, uniting the two, is a grape vine laden with fruit and leaves. Thus the great staples of the South, North, West and East, are wreathed together, encircling a space appropriated for inscribing the name of the successful competitor.



NATIONAL REAPER AND MOWER TRIAL, AT SYRACUSE, N. Y., July 13, 1857.

Having been unexpectedly detained by untoward circumstances from attending the above Exhibition, we left the matter in care of an intelligent friend, from whom we received a long and full report of the entire proceedings. After due consideration, however, we do not think it worth while to publish the account. A Committee of skillful judges were appointed to conduct the trial, and many of the results arrived at, they, perhaps wisely, kept from the public for the time being. It is now too late for any use to be made of the results this season. On the whole, we deem it best to suspend any remarks upon the implements, and wait for the full report of the Judges, which will be made public in September.

Though we have doubts as to much practical good resulting from great gatherings of this character, the one at Syracuse appears to have been one of the best conducted of any hitherto held. We quote the closing paragraph of the report made for us:

During the entire week of the trial, the weather was dry, and excessively hot, and it was a daily wonder that the President of the Society, at his present age, could bear up as he did throughout in his arduous duties. Both he and the Secretaries, and other officers of the Society, were exceedingly courteous and indefatigable throughout, and did everything in their power to promote a fair and just trial of the various machines entered on the occasion. The Jury, or Judges as we more generally call them, so far as we could perceive, were selected from among the best men of the country. They were a mixture of mechanics and practical farmers, those who understand and have for years worked harvesting machines with their own hands, and in their own fields. We shall look for such a report from the Hon. John Stanton Gould, of Hudson, N. Y., the Chairman of the Jury, as has not yet appeared on the like occasion in the United States.

KEEPING APPLES.

To the Editor of the American Agriculturist:

I was lately assured by a friend, in whom I have the fullest confidence, and I therefore, very readily, endorse his statements, that he put up a lot of sound apples last Fall, in barrels, part of which were *lime barrels*, and the rest

flour barrels. Apples, position, packing, store-room, and every thing else, as far as he can tell the same. On opening them in the Spring, many of those packed in flour barrels were decayed, while those in *lime barrels* were nearly as perfect as when put away. Being an intelligent and observing man, I record his statement for the benefit of your readers.

WM. DAY.

MORRISTOWN, N. J.

A TURNIP DISCUSSION.

NO. II.

In our first article upon this topic, we gave some reasons for the prevalent neglect of the turnip crop in this country, and indicated our opinion that it was yet to fill a much larger place in American husbandry. It cannot be, that a crop which does so uniformly well in England, and almost as well here, among the few who have got the key to its successful cultivation, will long remain unappropriated. Indeed the exigences of our farmers, at the East, already point to this crop as the next great improvement in agriculture. The high price of beef, and indeed of all meats, must lead to the fattening of a much larger number of animals near the chief market towns, where they can be sent in on a day's notice, and sold at the highest price. This is already done by many intelligent farmers, and would be done to a far greater extent, but for the high price of corn and other fodder, suitable for stall feeding. These gentlemen find their account in this course, not only by the high prices they secure for their beeves and sheep, but by the large quantities of excellent manure they make from their fattening animals.

Now turnips will supply the great want, which is universally felt, of a cheap provender for these animals more economically than any other crop we can raise. This crop will put it in the power of all stock growers, who live within a day's journey of these markets, to fatten beeves very cheaply, and to furnish their farms with a full supply of stable manure at the smallest cost. Thus the farms may be kept in a much higher state of fertility and their cultivation be made more profitable. This plan of feeding cattle for market, we are well assured, lies in the direction of our true interests, and will soon occupy a more conspicuous place in our husbandry. Meanwhile, how shall we grow turnips, becomes a question of absorbing interest.

PREPARATION OF THE SOIL.

Whoever reads the agricultural journals of England will notice that the one thing insisted upon above all others is the fineness of the tilth of the soil. The underdraining, the manuring, the plowing and harrowing, and the place assigned the turnip in the rotation of crops, all have a bearing upon the fine tilth necessary for a large turnip crop. In this they are very thorough, and this thoroughness is one element of their success. Turnips, usually, but not always, follow wheat in the wheat districts; this is their true position in the rotation. In other districts they might follow Indian corn or rye. These crops by the previous cultivation and manure they require, and by the multitude and fineness of their roots, leave the soil in a light friable state. The preparation for the turnip crop properly begins in the Fall previous to planting. The old stubble of wheat is turned under as soon as the grain is removed, which gives a good dressing of vegetable matter to the soil. It should be plowed again, either late in the fall or early in the Spring, and be left in a rough state for the action of the frosts. This action does much to reduce the coarse clods and to make the soil friable.

It receives its final plowing and manuring about the first of June, which in this country is a suitable time for sowing the Ruta Baga variety of turnips. The land is both harrowed and rolled thoroughly that all the lumps may be broken, and the weeds be destroyed.

The underdraining and sub-soil plowing have an important bearing upon making a fine soil. The stagnant water is thus taken out of the sub-soil, and the rains pass down freely through it, not only bringing ammonia to act chemically upon its particles, but the water itself acting upon them mechanically. A new stratum of soil is also subjected to atmospheric influences, and the work of disintegration goes on far below the common depth in undrained soils. Every one can see at a glance the advantage of this thorough preparation of the soil. The seed when it throws out its rootlets has nothing to do but grow.

MANURES.

The main reliance in England, as it always must be, is that of the yards and stables. Guano, bone dust, unburned bones dissolved, are only adjuncts for use in the drill, or for applications to the growing crop. The stable manure is carried out in the winter, or early Spring, in a fermenting state, and kept in heaps, until it is ready to be plowed in. These heaps are turned over two or three weeks before, use to help the decomposition. It is generally conceded, that well rotted manure, especially upon light soils, does much the best for the turnip crop. The theory is that light soils demand a very large amount of vegetable matter for so succulent a crop as the turnip.

On soils of muck and peat, concentrated fertilizers may be used to more advantage. These, in this country, should be applied in the early Spring and plowed in. Peruvian guano is altogether too powerful to be applied to the soil at the same time the seed is sown. Bone dust, and good superphosphate of lime may be used with the drill in sowing the seed to great advantage. We have raised our best Ruta Bagas by applying home-made superphosphate in the drill with the seed.

As to the quantity of stable manure necessary for the turnip crop, it depends somewhat upon the character and condition of the land. From twelve to fourteen cords is a common application to lands in good heart. If the land is light and has been badly skinned, twenty cords will be better than any less quantity. Indeed, if the ground is plowed deep enough there is little danger of applying too much manure. It is found by ex-

periment that the manure made from fattening animals is much stronger than that made from other stock.

In some soils, lime is an admirable dressing for turnips. This should be applied to lands that have an abundant supply of vegetable matter. In using stable manures for a succession of years, this matter accumulates, and a dose of lime will bring it all into activity, and make it available as plant food. Lime is also used to good advantage upon peaty soils, and upon drained swales and swamps. It should be applied in its quick state, and as fresh from the kiln as possible, and a few weeks before sowing the seed.

The quantity of lime applied to the acre varies according to the caprice, or convenience of the cultivator. Some give small dressings at short intervals, others apply two or three hundred bushels at once. On peaty soils, the application should be liberal; on gravelly and sandy lands, the lime should only be applied as the soil is furnished with vegetable matter.

Bone dust forms one of the most valuable fertilizers for turnips, and the change that has been wrought in some of the barren districts of England by its use is represented as very wonderful. Waste moors have been converted into fertile farms, and the wilderness has literally been made to blossom. The bones are used in the drill in connection with ashes, at the time of sowing the seed. The ashes facilitate the decomposition of the bone dust and afford immediate supply to the germinating seed, until it can avail itself of the bone earth. From 12 to 30 bushels of bone dust are applied to the acre. The rule is about 16 bushels, and from careful experiments, it would seem that this quantity is all that one crop of turnips can avail itself of. If more is applied it goes over to the benefit of the succeeding crop, whatever it may be.

Pigeon dung, rape dust, and animalized carbon are other manures frequently used on this crop. But these are only to be had in small quantities in this country, and are not available for most farmers.

The common method of sowing turnips broadcast, is at once slovenly and wasteful. There is no apology for it except in sowing as a succession crop among corn at the last hoeing. We are persuaded that any farmer, who tries the drill system of cultivation for white turnips, will never relapse again into broadcast sowing. In the drill the crop can be cultivated, can be thinned out judiciously, and every tuber receive its fair share of aliment. The produce per acre will be much larger, and the crop can be gathered with more facility. It is still in season to sow the white varieties, and any of the Globes or Tankards will yield a good crop. Try them in drills, upon well prepared soil, with bone dust and ashes, if one have them, sowing them with the seed. Sow the Strap Leaf or Cow Horn varieties at the last hoeing among corn.

CABBAGES AND TURNIPS ON WASTE GROUND.

Who can afford to let land worth \$100 an acre, or a third of that price, remain idle, while every farm product is bringing remunerative prices? If you have such unoccupied grounds; it is not too late to bring them into a crop-growing and crop-paying condition. The first week of August is a suitable time to set out late cabbages, and if located near large cities, or shipping ports, they are a profitable market crop. You can also feed a quantity of them to milk cows and fowls, in Winter, to good advantage. The quick growing varieties of Turnips may still be sown with

reasonable prospect of a good crop, by preparing the ground as advised on another column. Ruta Bagas are still in season in this and southern latitudes, but require earlier sowing at the North. An acre of ground, from which a crop of hay has just been taken, if plowed up and sown broadcast with English Turnips, will make an excellent pasture for fattening sheep upon in the Fall, or a few hundred bushels will not come amiss among the stock next winter.

A large number may also be raised *very cheaply* by sowing broadcast among corn, or after a crop of early peas or potatoes, scattering the seed just before a shower, or hoeing it in. A friend of ours, acting in accordance with the advice given at this period last year, sowed his corn field with strap-leaved turnips, and in the Fall harvested several hundred bushels. The whole expense consisted in scattering the seed and harvesting the crop.

THE WEST—THE CROPS.

During the past two months, we have journeyed some six thousand miles, principally in Ohio, Indiana and Illinois, with shorter trips of a few hundred miles in each of the States of Michigan, Wisconsin, Iowa, Missouri and Kentucky, and also in Minnesota Territory. We made numerous stops along our route, among farmers, to examine soils, crops, and modes of culture, and usually managed, when travelling by railroad, to get a seat in a baggage car, between the wide open doors, so that we could have an unobstructed view of the whole country we passed through. We have made a multitude of notes, but have no intention of inflicting upon our readers anything like a traveler's journal. Though previously well acquainted with the Western country (having passed six months at one time in examining Ohio and the country west and southwest of that State), our recent journey, like many future ones we expect to make, if we live, was undertaken mainly to study the different kinds of soils and crops, and the modes of tillage, &c., required. We have a store of facts and observations to draw upon from time to time, which may be useful to Eastern as well as Western readers. We have time now only to refer to

THE CROP PROSPECTS.

The earliest Spring reports of the wheat crop, and the continuous rains through almost all of May and the fore part of June, were well calculated to awaken fears of a very short harvest. We are happy to be able to report a much better prospect than has been anticipated.

Winter Wheat was pretty generally winter-killed, throughout the open prairie country in Northern Indiana, Illinois and Iowa, but farmers very generally adopted the practice, so urgently recommended by us, of sowing on Spring wheat, and harrowing it in, without plowing up what remained of the Winter crop. We found an excellent stand of Spring wheat almost everywhere, and the yield may be set down as above an average one. In Ohio, Middle and Southern Indiana, and Illinois, and in most parts of Missouri, a large breadth of Winter wheat was sown. Early in the Spring, the prospect was unfavorable, but the crop came forward far better than could be expected, and, except on naturally wet land, a generally good yield has been already secured. The ravages of insects have in most places been much less severe than last year.

Indian Corn was kept back very late almost everywhere. We saw hundreds of fields in Ohio, Kentucky, Indiana and Illinois, in which the corn had not received its first hoeing up to June 15th, and the yield will doubtless be greatly dimin-

ished, simply for want of working. Since that date, the weather has been admirably adapted to hasten forward this crop, and as "July and August make the corn crop," we shall, on the whole, have a full average yield, unless we are visited with unusually early Autumnal frosts.

Oats and Barley are cultivated more extensively this year than ever before, and the present prospect is promising.

The Hay Crop has probably never been better than it is everywhere, this season. We could wish there were animals enough, especially neat stock, to profitably consume next Winter all the hay in the country.

Potatoes are widely planted, but we are not yet able to speak definitely of their condition and prospects. There are rumors of bad rotting in some of the early plantings.

Fruit, especially apples, promise a fair crop.

On the whole, we can congratulate the farmers of the country upon the present and prospective abundant reward which will generally attend their labors the current year. We say generally, for there will be many exceptions, as it is certain that all who are so unfortunate as to occupy wet, undrained lands, both have and will meet with much loss, from the long-continued rains of the past Spring.

CANADA THISTLES

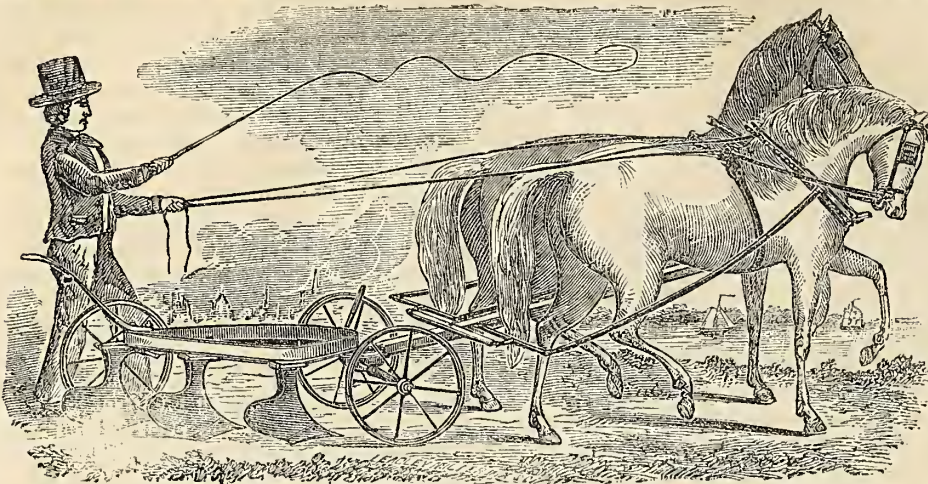
Are a great pest of the farm. They fill up both pastures and meadows, and, if allowed to multiply, will take possession and drive out the grasses. Cultivation will of course kill them, but the seed is scattered in immeasurable quantities from the plants that stand neglected in the corners of the fields and fences, and by the road-side. We have never been more struck with the waste-fulness and wickedness of Virginia worm fence, than in travelling through the districts infested with this weed. Every corner of the zigzag was full, and securely nestled beyond the reach of scythe the neglected pests scattered their prolific seeds.

It is commonly recommended to cut them while in bloom, an inch or two above the ground, so that the hollow stalk may be filled with water with the first rain, and the root be killed. This may be effectual, if the rain comes seasonably; but we doubt if anything short of thorough cultivation will redeem the land that is already stocked with this plant. Every farmer should see to it that his pastures, fences and road-side, are thoroughly cleansed of this pest. Mowing will prevent them from going to seed, and, if followed up vigorously, will kill them. No plant can long survive the constant cutting of its stem and leaves. Let the first work after haying be the destruction of the thistles.

CHICKENS VS. CHINCH BUGS AND PLUM WEEVILS.

We see it reported in the Southern Planter, that a hen and chickens placed in a coop in the corner of a wheat field, where the chinch bug had commenced its ravages, proved to be an effectual check upon the insects thereabouts, though they did considerable injury out of the range of the chickens.

The chinch bug is only one of the destructive insects which chickens are ever ready to pick up. In our yard stands a black-heart cherry tree, the fruit of which was quite wormy last year,—as is often the case with this variety. This Spring we placed a chicken coop with its occupants near the tree, and secured a full crop of fruit, showing no appearance of worms. The insects, as they emerged from the ground in a winged form, were so effectually picked up that they failed to deposit their eggs in the fruit. Of course there will be a short crop of worms next season.



HILDRETH'S IRON GANG PLOW.

THE GANG PLOW.

This implement we regard as a very useful one upon every farm. But though manufactured in various forms for several years past, they are still far from being in general use. This has resulted in part from an ignorance of their utility, and in part from defects in their construction. Probably the main reason for their not being more widely diffused is in the fact that no person has held a monopoly of their manufacture, and therefore no one has been interested in pushing their claims into notice. This is the case with many of the most useful implements, while inferior articles have met with extraordinary sales, owing to the energy, ingenuity, and sometimes impudence of the manufacturers.

The "gang plow," as its name implies, is simply the arrangement of two, three or more small plows in one frame, or gang, so that two or more furrows may be cut at one movement of the team. Three plows are generally set together. In the old form there are three pieces of timber framed together, side by side, and a single plow set into each. A pair of handles is placed upon the frame to guide it, and wheels are arranged to regulate the depth. This form we have used, and would certainly have one of them, if we could get no better, for all light plowing, cross plowing, plowing in seed, &c. We have recently found a better one, however, which we are prepared to recommend as decidedly superior to any thing else of the kind we have yet seen. We refer to the "Iron Gang Plow" illustrated above. After thoroughly examining its construction, and putting it to the practical test with our own hands, we are so highly pleased with it that we take pleasure in calling special attention to its claims, not so much to benefit the manufacturers as our readers, though the inventor, Mr. Hildreth, certainly deserves a "benefit" for the many ingenious improvements he has added to various farm implements during a dozen or twenty years past, especially so, as he seems more intent upon going on improving rather than to stop and reap the benefit of his labor.

The iron gang plow is wholly constructed of iron. The frame which is triangular or

three-cornered, is of cast iron, but firmly bound with a heavy wrought iron strap to guard against accidental fracture. This frame is supported by three wheels; one of them running in the furrow, acts as a complete guide, and the implement *requires no holding*. A boy, able to drive the team, can use it as well as a full grown man. The axle of the forward wheels is attached by a pivot or bolt, so that the plow can be turned around readily. There is a very simple arrangement for raising or lowering each wheel, so that it will cut any depth, or the plows can be raised up in driving from field to field.

The plows are so attached to the frame that upon striking a fast stone a simple bolt will first give way, and thus save the plow. There are several other ingenious and valuable arrangements, showing the skill of the contriver which we have not space to describe minutely. We confess to being unusually pleased with this implement and its performance, and it will we believe give general satisfaction. It will come in good play upon summer fallow or grass and clover fields turned over to prepare them for wheat. Wheat can be sown directly upon such fields, and the gang plow will do the triple work of stirring the ground, covering the seed and turning under the weeds.

As the three plows cut from 25 to 30 inches in width, a single team will go over four to six acres a day unless it is desired to make the final plowing quite deep. This implement is well adapted to plowing in grain sown broadcast. It is also made with a sowing apparatus to scatter the seed in the furrow which is said to work finely, though not having seen this apparatus in operation we can not speak from personal observation. Without the seed sower the implement is sold at \$20 to \$25. We believe they are not yet on sale generally, and those desiring to make further inquiries will need to address the manufacturers as noted in our advertising columns.

Never grow a bad variety of anything, if you can help it. It takes the same room, and wants the same attention as a good one. Never buy cheap seed.

Never waste animal or vegetable refuse. The very soap-suds from the laundry are rich manure.

A BEARISH MOVEMENT IN THE PORK-MARKET.

"Old Settler," a correspondent in the *Prairie Farmer*, gives all pork-eaters a stumper in the following questions:

First—Why was it that the Jews, the chosen and favored people of God, were forbidden the use of the hog, if he is healthy food for man?

Secondly—Why did Christ, the great doer of good, deprive the Gallileans of two thousand of their hogs by turning them headlong into the lake, if they were fit food for man?

Thirdly—Why is it that scrofula, that dire disease, in its many forms, that is sweeping its thousands from our midst yearly, derives its name from the hog, unless that his use for food originated that disease in man?

Fourthly—Why is it that the Jews are free from scrofula, though living in every civilized country the world over, if it is not by abstaining from the use of the hog, as being unfit food for man.

Whether this is a bear's argument to bring down the high prices that prevail for this flesh we are unable to say. We should not be surprised to learn, however, that Spring pigs were enormously dear in "Old Settler's" neighborhood, and he was setting a trap to bring them down. We give a Bull's response to his triumphant interrogations.

First—For the same reason that coney, hares and other animals, now eaten, were forbidden to the Jews. The object was, by special enactments to make the Jews different from other people, to separate them by their dietic habits and domestic usages from the heathen tribes around them. It was also designed probably in these arbitrary distinctions between things clean and unclean, to foreshadow the eternal distinctions between right and wrong.

Second—For the same reason, that God in his Providence is now destroying neat cattle by the murrain in some parts of Europe, in immense numbers. For the same reason, that the Almighty deprives men of their property in other forms. Other things beside pork may be idolized, and so become perilous to the souls of men.

Third—It may have been from a thousand and one other reasons. There is some doubt about the fact assumed. But if true it may have been because swine themselves had the disease, or some thing like it, or it may have been because of a superstitious notion that swine's flesh had some thing to do with the disease. A certain weed is called snake root from the fabulous idea that it will cure the bite of poisonous serpents. As a matter of fact, the root is no better for that purpose, than it is for curing the itch or measles.

Fourth—The fact assumed is doubted. It is difficult to show that among people numbering six millions, no one ever died of this disease in the course of eighteen centuries, especially when they all hate pork-flesh so much that they would be morally certain to call it by some other name, if they thought scrofula smelt of bacon even in its origin. Will "Old Settler" try again. Meanwhile, we beg leave to assure him that Spring pigs are 18 cents a pound live weight—not a cent less.

WONDERS OF THE BEE-HIVE.

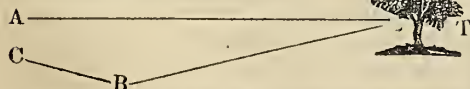
NUMBER II.

We caught the Bee away from its home, and had a fine chance to look at its head and legs and wings; but the little captive did not tell us much about the bee-hive. What prisoner of war can be expected to reveal all the secrets of the camping ground? Still we may get something out of this poor insect, though it has "no speech nor language," and its "voice is not heard." We must ask it to show us the way to its nest, first entering into a treaty of alliance and friendship with it. It is the habit of the bees, when they are collecting honey, to start for home as soon as they have secured a load. So, having captured several bees that are buzzing around the flowers, we will put them on a plate with a glass tumbler over them, and give them a teaspoonful of honey or syrup. See, how glad they are to find it! They seem to be as hungry as a boy just out of school; and soon they will be as good-natured as a child with its hands full of sugar-plums: for two peculiarities mentioned by Mr. Langstroth are curious and important:

1. "Bees cannot, under any circumstances, resist the temptation to fill themselves with liquid sweets."

2. "A honey bee, when it is gorged or filled with honey, never volunteers an attack, but acts solely on the defensive."

We can see, through the glass, how they use their proboscis to drink with: and in a few moments we find them restless and anxious to escape. We lift the glass and allow one to crawl out. It is very deliberate and careful, for it has a heavy load; but presently having crept to the highest point it can reach, it takes wing and sails round in a spiral curve, mounting higher and higher till we almost lose sight of it, when it darts off in a *bee-line* for its home. So that one has gone perhaps half a mile, perhaps two miles; we cannot tell: but possibly, if we waited for it patiently, it would come back with other bees after a while, having in some way told "the folks at home" about the good fare we gave it. But as it is probable that some of the other bees came from the same hive we will not wait for its return. We will take the others up the road for a quarter of a mile or so, and let out another bee there in the same way. Now if this came from the same home, it will also go back there in a *bee-line*, and we can very soon judge how far off the hive is; but if it goes in a very different direction, we must let out a third, and perhaps a fourth, till we find one aiming for the same spot as the first. Then we must follow up its course till we come to the place we are looking for. This may be illustrated by a cut.



We let out a bee at A, and it flies directly to its home, which we will suppose to be at T, in the hollow trunk of an old tree; then we go down to B and release another, but it came from a different stock, and goes off toward C. A third, however, goes toward T,

and at the point where its track meets the track of the first we shall expect to find their common home. As we approach the tree, we may find it well to release one or two more, to direct our search.

These hints may be of service to those who are disposed to become bee-hunters, and to mark, for fall, the hollow trees to which they follow the bees during the summer. We introduce them here, chiefly as an illustration of some of the wonderful *instincts* of the honey-bee; for when we get ready to pry into the hive itself, we shall go down to neighbor Jones, and ask the privilege of examining his apiary at our leisure.

The instinct of the bee takes it directly home; and from this we can judge of its wonderful vision. Flying at a considerable distance from the ground, and without a compass to direct its course, it seems to have no difficulty at all in distinguishing its landmarks; but makes its way, so far as we know, with equal ease over prairies and meadows and timber land. How strange that those little eyes should see so far, and that those wings should carry them in a straight line to their home! But still stranger is the fact that if a hive is moved but a few feet from its proper stand, the bees returning from the fields are unable to find it in its new location. Their acuteness of vision seems then to fail them, and they fly in circles around the familiar spot till they die of mere fatigue. Their instincts do not anticipate any such catastrophe as the removal of their dwelling. If, however, the hive of bees is carried two or three miles from its stand, the bees on leaving it, finding new objects around the hive, take their bearings before they go far away, and so become familiar with the new situation. In some countries this fact is turned to good account, and hives are transported from place to place in search of pasture ground. On the Nile, for example, large numbers of hives are placed on a boat, and are carried up and down the river, stopping at different places as often and as long as the supply of honey demands. The bees, all returning in the evening, may be carried several miles at night, and the next morning they have to learn the features of a new country.

The bee has other senses than that of sight, and it is remarkable that so much of its work should be done in perfect darkness. It comes in from the field in the glaring light of noon-day, and is perfectly at home in all the passages and windings of a hive as dark as midnight. Darkness is not essential to its work, but it does not impede it; and the ordinary work within goes on as well by night as by day. There must be some wonderful powers of *feeling* to guide the bees in such a labyrinth; and the *antennæ* and *feelers* undoubtedly are designed to help them in the dark.

The sense of *smell* is also very acute. Probably bees distinguish others belonging to the same hive by their individual odor. If a strange bee attempts to force his way into a hive where it does not belong, it is likely to be repulsed at the door. If different colonies are united, they are frequently dis-

posed to have a fight together, but their hostility may be entirely overcome by giving them all a sprinkling with water, strongly scented with peppermint or some such odor. The scent of honey will attract them to a box where there is nothing to be seen; and in large towns the perfumes of the apothecary sometimes draw them by hundreds to his store, where they try in vain to get at shaving soaps and soda-water syrups. Nothing provokes a bee more than the odor of its own poison; and probably it is the fragrance of flowers that directs its course from field to field, and from tree to tree. To some persons also they show a special dislike, and the human breath is particularly offensive to them.

The sense of *taste* is nearly allied to that of smell, and we suppose no one who has eaten honey will be disposed to doubt that the bee has "a sweet tooth" somewhere in its head.

The sense of *hearing* is not so easily marked. It is doubtful whether bees pay any attention to noises made by man. If they do not, it is in vain to attempt to delay a swarm by beating pans and kettles in the old-fashioned way. Some persons still believe that such a noise disconcerts the bees by drowning their own hum; but the best informed have no faith in it. Still it seems possible that the bees do communicate with each other by the noises which they are able to make. Their hum, produced by the motion of the wings, varies at different times, and has its lively as well as its sad mood. Other noises are heard within the hive, which have some special significance, even if they do not convey information from one insect to another.

We have spoken now of the wonderful instincts and powers which excite a desire to know more of insect life, and to penetrate the mystery of the bee-hive. But the prospect is discouraging, for the hole in the tree by which the bees enter is very small, and too many armed sentinels are there, to make it seem very safe to look into that dark cavity. Nor is the common hive much better. So we must watch awhile longer on the outside, and question the people that come out from the city. They are very busy, and cannot loiter, but we will coax them to tell us the latest news as they fly by, and perhaps we shall get on such good terms with them, before the summer is over, that they will let us see their nurseries, and cradles, and store-rooms of sweet-meats.

Dogs.—We agree with all who express the opinion that dogs are a great loss in an economical point of view. Take all that it costs to keep the dogs in Ohio, and add it to the value of all the stock they kill, and of all the time they are the means of wasting, and all the quarrels they occasion, and all the hydrophobia they cause, and place the sum total on one side of the account. Then place on the other side all the *real* good they do, and we question whether the most devoted dog-worshipper would not own that the idolatry was a costly concern. With a very few exceptions, we believe it would be a blessing if all the canine race in our State were to disappear and be seen no more forever.—*Ed. Ohio Farmer.*

Our opinion exactly.—*Ed. Ger. Telegraph.*

And exactly ours.—*Ed. American Agriculturist.*

HOP CULTURE DESCRIBED.

We spent a few days in July among the hop-growers of Otsego county, and improved the opportunity to observe their methods of cultivation, and to learn what improvements our farmers had made in growing a crop so famous in England. It is confined to a few localities in this country, and outside of these very limited districts, little is known of hop culture. The few who are engaged in it find it profitable, and some have made themselves independent in a few years.

The Hop (*Humulus lupulus*) is put by Linnaeus in his class of DICIA, and in the order *pentandra*. The staminate flowers are without corol, and have a five-leaved calyx, and the anthers have two pores at the end. The pistillate flowers upon the female plant have a one-leaved calyx, entire, oblique, and spreading. There is one seed within the leaf-like calyx. This description of the male and female plants is a matter of practical importance, as the male plants should only bear a small proportion to the female in a well-planted hop-yard.

The use of hops in the manufacture of beer is of comparatively recent origin, it being used in Flanders about 1500, whence it was introduced into England about 1525. Its introduction was contemporaneous with the Reformation, and some poet who eschewed hop flavor and Puritanism alike, gave vent to his antipathy in the well-known doggerel:

"Hops, heresy, pickerel and beer
Were brought into England in one year."

It now occupies a conspicuous place in the husbandry of England, and is a profitable crop. The counties where it most flourishes are Kent, Sussex, Surrey, Worcester and Essex, and in these it is confined to particular localities. The number of acres in hops in 1820 was a little over fifty thousand. Twenty years later it was but fifty-two thousand, showing that there is but little increase in the extent of land used for this crop. The value of hops raised in England has sometimes reached the sum of fifteen millions of dollars annually. In this country the cultivation of hops is steadily on the increase.

PREPARATION OF SOIL.

The hop plant delights in a rich loam or calcareous sand, and lands of this character, lying upon lime-rock, are selected in England for the hop yards. Nearly all the farms that we visited in the north part of Otsego county have a surface soil of rich clayey loam, and the rock where it crops out, which is seldom, is either lime-rock or slate, and the slate is often very soft, or in a state of decomposition. The best lands upon the farm are usually selected for the hop-yard, and the ground is plowed a foot or more deep, and highly manured. The rule for manuring, as we learned from one of the best hop growers, was, "the more manure the better." Indeed, so general is the conviction of this necessity for the crop, that no skillful farmer attempts it without manure, and the tendency is to rob every other field to enrich the hop-yard. After thorough plowing, manuring and harrowing, the field is ready for the

PLANTING OF THE ROOTS.

These are obtained from yards that have been several years under cultivation. The plant has an annual stem, but a perennial root, and is continually throwing up suckers, which have to be removed every season from the old vine, in order to throw the strength of the vines into the flowers. Sometimes the cuttings of the old stumps, which are removed every Spring, are buried, to furnish new plants, but the principal reliance is upon suckers that come up spontaneously near

the old vine. These afford a considerable source of profit, when there is a demand for them. They are sold in some neighborhoods, when the hop fever is on, as high as three dollars a bushel, but the general price is from a quarter to three-quarters of a dollar a bushel. It takes four or five bushels to plant an acre. The distance at which the hills are put varies somewhat with different cultivators. The strong temptation of those who are inexperienced in the business is to put them within five or six feet. But those more skilled, rarely put them nearer than seven feet, in rows running each way, and this we found the prevailing rule in the yards that we visited. This makes about seven hundred hills to the acre. In planting, regard must be had to the sex of the plants. The rule is, to put one male plant in every tenth hill in every tenth row, making one staminate to ninety-nine pistillate plants. Without the staminate plants, there will be hops, but there is much less pollen upon them, and the quality is considered inferior. No seeds will be formed to produce young plants, in case the cultivator wishes to raise his stock from the seed.

THE POLES.

No inconsiderable part of the capital required for a hop-yard is expended upon the poles. Those most used in this region are of cedar and spruce, and we were informed came from Canada. They cost about twelve cents each on the canal at Fort Plain, whence they are carted some twenty or thirty miles to the farms. The cost delivered is not far from fourteen dollars a hundred, making the outfit of poles for an acre about two hundred dollars. They will last eight or ten years, according to the care taken of them during the winter season. They are from twelve to twenty feet long, and two are used for each hill, inclining from each other, so that the poles, when draped with the vines, form a succession of verdant arches. They are set in this way to admit the air and sunlight more perfectly among the vines. When a hill shows unusual strength, a third pole is sometimes set, inclining at right angles to those already set.

CULTIVATION.

This is substantially like that of the corn crop, consisting of plowing, cultivating and hoeing the whole space between the rows. They have a plow that cuts a very shallow furrow near to the hills, so that the roots may not be injured near the crowns of the plants. In the middle of the spaces between the rows, the plow goes down ten or more inches. The best hop-growers are scrupulously neat about their yards, tilling thoroughly, and not suffering the weeds to grow. In one of the yards we visited, nothing was visible but hops, save a solitary daisy that the hoe had accidentally missed.

The hop requires a good deal of manure, and it is customary to give the land a liberal dressing every year, and plow it in. No crop pays better for manure than this, and those gentlemen who succeed best are found to make the largest outlays for fertilizers. It delights in manures of an oily nature, and fish are used in England with the best results. Old woolen rags and hair are also excellent manures. But the main reliance here is stable manure, with top dressings of lime, plaster and ashes. Plaster is used to good advantage.

PICKING.

This is one of the most expensive and laborious parts of hop-growing. It cannot be done reasonably with the ordinary working force of the farm, and the grower has to employ extra help when all his neighbors are as much in want of labor as himself. Females procured from the

neighboring villages and cities are usually engaged for this purpose, and the wages are about two dollars and a half a week, and board.

The time when the crop may be harvested to the best advantage is very short. If the vines are cut too early, they bleed, and are injured for the next year's crop: if a little too late, the hops are injured by the frost. They should not be cut until the sap is done circulating, and the flowers are matured. Careful observers have noticed that a week's difference in the time of cutting the vines very sensibly affects the yield the following year. In picking, the poles are taken up and put lengthwise of the bin, which is some ten feet long by four wide, and is divided into four apartments. Four pickers then strip off the flowers into the bins, whence they are put into sacks, and carried to the kiln for drying.

THE KILN

for drying is a very essential part of the business, as the value of the crop depends essentially upon thorough curing. The kiln which we visited is one of the best of its kind, and cost about seven hundred dollars. It is made of cobble stones and mortar, in circular form, the walls about two feet thick, and running up about sixteen feet high. The stone wall is surmounted by a conical roof with rafters twenty-two feet long. The point of the cone is left open, and protected by a revolving hood, like the smoke-jack often seen upon the top of a chimney. The apartment within the walls is about twenty-two feet in diameter, and is cut into two stories. On the first floor is the heating apparatus, consisting of a large box stove, and about a hundred feet of pipe winding around the walls of the kiln, so as to distribute the heat uniformly in all parts of the building. The floor above is made of slats two inches by one, and set edgewise about two inches apart, and covered with a thin cotton cloth or strainer, so as to hold the hops, and yet admit of a free passage of the heated air. On this perforated floor the hops are laid to the depth of two feet, and are subjected to the heated air for about twenty-four hours. They are then removed to the adjoining storage room, where they remain two or three weeks, and are packed and pressed in bales.

The crop is usually bought up by speculators the Spring before it is harvested, the farmer agreeing to deliver at a given place and time his whole crop, at a specified price. The speculator sometimes pays a part of this price down, in order to secure the bargain. If hops rise, he sometimes makes a fortune in a single season. If they fall, he is ruined. This is a favorite crop for speculation, not only among residents in the hop districts, but in the city. A single house in this city sunk two hundred thousand dollars in this operation last year.

As to the tendency of the crop upon other farm interests, we found the opinions of intelligent men much divided. All agree that for a time the crop is profitable, and nothing brings so large returns in money. Others claim that it leads a farmer to neglect everything else, and if he makes money by it, he is certain to ruin his farm. Judging from the appearance of the farms in the towns that we visited, there is a foundation for this latter opinion. The hop vines are eating up the land, and reducing the capacity of the soil to produce remunerative crops of corn, potatoes, oats, grass and hay, to which this region is so admirably adapted. We trust the day is not far distant when a wiser husbandry will prevail, when the landholder will feel that he is identified with his homestead, and that he has no right to enrich himself at the expense of his soil.

CATTLE DISEASE IN OHIO.

[The following communication, for some reason, failed to reach us in time for either the June or July numbers.—Ed.]

To the Editor of the American Agriculturist.

In consequence of the appearance of a severe and fatal disease among cattle in some parts of Portage County, Ohio, the past Winter, the Farmers' Association of Edinburg appointed the undersigned a Committee to investigate the subject, and ascertain, if possible, the nature, cause, and cure of this malady. The report of this Committee we wish to forward for publication in the *American Agriculturist*, together with a resolution adopted by the Association at the close of an instructive discussion upon the adoption of the report.

REPORT.

The disease is not caused by freezing, neither is it what has been called hoof-ail, foot-rot or fowls. Its first symptoms seem to be a deadness of the end of the tail, extending upwards, till, in some cases, the flesh separates from the bone and falls off. About the same time there is a purple appearance just at the edge of the hair above the hoof. It then commences swelling, becomes feverish, extending upwards to the ancle, and in some instances causing a separation of the coffin bone from the pastern joint. The lameness is confined entirely to the hind feet. The blood is pale and thin, and in most cases, the animal retains a good appetite till near the last. The cause we apprehend to be feeding on hay containing ergot, (a parasite fungus growing within the glumes of various grasses,) in considerable quantity. We arrive at this conclusion from the fact, that the hay fed by an individual who lost a large number of cows, contained much of this article, and also the person from whom he purchased the hay, lost cattle from the same disease; and in both instances, cattle fed on other hay, were not affected.

In every well-marked case of this disease, it has been ascertained that the hay on which the animal was fed contained the ergot. The hay in which the ergot was found the most, was the kind called June or Spur Grass, growing in old meadows, where the soil is rich, and the growth rank. The severe frost on the 31st of May, 1856, is supposed by some to have been the cause of the disease in the grass, by destroying the vitality of the seed before it arrived at perfection; while, by others it is attributed to extreme warm growing weather, in June, causing an overflow of sap.

Although we consider the whole subject involved in much obscurity and uncertainty, and requiring further investigation, yet we are satisfied the best manner of treating the disease, is immediate resort to cauteration, and a change of diet, whereby an increase of animal heat and vitality may be obtained, at the same time making an application of suitable remedies to the affected parts. First, by cutting off the toes until they bleed, and blue vitriol moderately applied to the affected parts has been found beneficial in several instances. A free use of salt and charcoal, in various ways, is undoubtedly a good preventive; and a careful examination of the hay or grass on which the stock is fed is indispensable. If found in hay, it may be removed by threshing or trampling. Of the specific nature and properties of ergot, in hay, or whether it is identical with that of rye, we are not well informed. The immediate effects of the latter, in large doses, is well known; but it has no affinity to the ordinary known effects of vegetable poisons. What effect would be produced by its gradual and continued use, we are not in possession of suffi-

cient information to warrant us in speaking positively; but we do suppose, after a careful examination, that it operates on the blood of the animal, and unless immediate remedies are applied, it proves fatal.

P. BARRON, M. D., J. Y. PEARSON,
R. M. HART, Esq., JONAS BOND,
Committee.

The following resolution was unanimously adopted:

Resolved, Inasmuch as the evidence adduced is conclusive, that ergot in hay is the cause of this disease, yet the Association cannot decide that it is the real cause of a poison being introduced into the system, owing to our inability to analyze this substance; therefore, we desire to ask the Editors of our Agricultural papers for more information, and to obtain the chemical analysis of ergot.

EDINBURGH, Portage Co., O., May, 1857.

For the American Agriculturist.

FROM OUR WATERLOO CORRESPONDENT.

GUANO AND CONCENTRATED MANURES.—It is gratifying to notice among the advertisements in the *Agriculturist* so many competitors in the sale of concentrated manures; the more especially as the manufacture of tafeu from city night-soil, and the ammoniated powder which Mynheer Schwager makes at that little barren sea island from the defunct animals of Gotham, does work great good to the propriety and health of the city, while it returns to the vegetable kingdom a part of those indispensable elements, the whole of which has so long been wasted and lost! When such men vend only the unadulterated article, they are the true benefactors of their race. But why does M. Schwager set the price of his untried amendment above that of Peruvian guano, even if the latter does hold its ammonia by a more volatile tenor than does his animal fertilizer, as he intimates, for it is only in the state of a carbonate that ammonia can perform its true office in the soil, as the truly practical Boussingault tells us that the sulphate of ammonia is always changed to a carbonate in the soil before it becomes available to plants!

MORE NITROGEN.—As the sailor said, "brandy was the best thing, and more brandy the next best." The same may be said with much better reason of nitrogen. How often we hear the farmers say, "the soil cannot be made too rich for corn;" nor can it for most other cereal or herbaceous crops after decomposition has added hydrogen to the nitrogen, and formed the carbonate of ammonia, and that salt has had time to prepare and leaven the whole lump *au fait* to vegetable nutrition. In a virgin soil, the whole recumbent surface is thus prepared by Nature's hand, the carbonic acid of decaying vegetables holding the volatile ammonia ready to perform its office as soon as the surface is stirred up and planted. On such a soil, that delicate feeder, wheat, finds its true nutriment, and attains perfection. Hence, let every farmer or gardener take a hint from Nature, and plant his coarse feeders, corn, oats, roots—potatoes sometimes excepted—on land treated with crude unfermented manures, and the more delicate feeders on the same soil the next year, either without extra manure, or with liquid or well-rotted manure. No man knows until he tries it, how much ammonia may be saved by keeping his manure under cover, and applying it in a liquid state, either to a grass-plot or hoed crops; in this way, hen dung, the liquid from the privy, or a little dissolved guano that is rich in ammonia, may be made the substitute for many loads of ordinary long-exposed stable manure. Let every gardener try it.

WEEDS A BLESSING.—When I see a crop struggling with sterility instead of being choked with weeds, I feel as the doctor does when called to a patient in the cold stage, who is without stamina enough to raise a fever. In ever-blessed alluvial Western New-York, I have seen many a field and garden crop choked with weeds, which only made me more in love with all-provident Nature, in proportion as I grew sick of lazy, shiftless, ignorant man. But on the drift formations at Brooklyn and Staten Island, I have seen garden crops struggling in piteous, weedless sterility; insoluble silex seemed to reign triumphant in default of every mineral or vegetable alkali, in the shape of potash or ammonia; but the mercenary gardener said to me with some truth, that "the beets were sweeter for being so very small." Where weeds grow there is positive evidence that there is life in the soil, that Nature is true to her own, and that man's improvidence alone creates a vacuum. If he will only give a substitute for her organizing weeds, she will most generously second his efforts; but unless he returns something to her soil as a *quid pro quo* for the crop he removes, it soon reaches that state of sterility where the weeds, her panacea for a neglected soil, cannot find sustenance, and the desert has begun.

GRASS THE GREATEST OF BLESSINGS TO AGRICULTURE.—I once looked upon an extended fenceless plain overgrown with May weed (*Anthemus Catula* of Zinn), at the South, which once produced luxuriant crops of cotton. When I asked why these plains had not been seeded to grass before the fences were gone or removed, the reply was, "grass would not grow in this sun-stricken region." Clover, the largest rooted of all, grew well in Fall and Winter, but the first of second Summer gave it its quietus. On no large Southern plantation have I ever been so impressed with the evidences of domestic comfort as on the smallest grass-growing farm in Western New-York, even in those elevated regions where Indian corn is reduced to that early-stunted variety which yields barely enough to fat the pork and make the Johnny-cake of the farmer's family; for here is clover-scented butter, fine-creamed cheese, raised, not greasy wheaten biscuit, and every other substantial article of food the epicure might envy, served up with a neatness which smacks of no "help." Here are fat, sleek cattle, and laughing cows, with white clover pasture, knee-deep in mid-Summer, and the best shelter, and sweet clover and Timothy hay and oats in Winter. How different is all this where white clover never shows its blossoms, and Timothy, or even red clover, can hardly be coaxed into a respectable growth; with no herbaceous substitute but the blades of the gross variety of Indian Corn, whose stalks are ligneous and inedible. In the hog and hominy country it is still worse, for there the hogs eat up all the corn, and the negroes all the hogs, while the poor mule is only enabled to live through the cold sleety winter, by his great powers of endurance, and his capacity for long suffering.

OCEANIC MANURES.—From the south shore of Long Island to the Carolinas, the rockless, sandy coast is unfavorable to the growth of marine vegetables, but farther east and north, the rock-bound headlands around the Bay of Narraganset send to the narrow beaches after every eastern gale, a ripe crop of ribbon and rock-weed, full of mineral and animal matter, in the form of crustacea, zoophytes and molusca, both living and dead. Menhaden fish is also a great manuring crop. If leaner fish afford more nitrogen, the greater number of menhaden to be taken makes up for the excess of carbonaceous matter they contain, and this is of economical, if not of manureal value.

WATERLOO, N. Y.

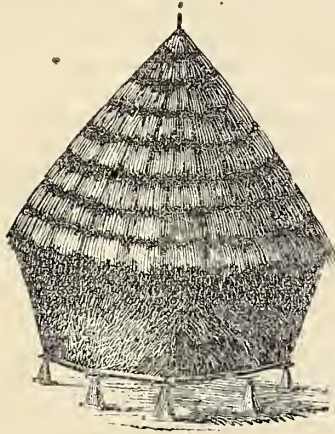
S. W.

STACKING GRAIN.

If grain is to be stacked in the open field, it is important that it be well done. The recollection of numberless moldy, sprouted sheaves, as we have seen stack after stack removed to the barn or threshing grounds, leads us to give a word of caution on this subject.

Some farmers have permanent "stack-yards," and others make their yards each year, contiguous to their principal grain fields. The most perfect cheap protection to out-door grain is afforded by a cap roof supported by four corner posts, enclosing a square space for the stack. The posts have holes for a greater part of their length, and the roof is raised or lowered at pleasure, and supported in its position by strong pins.

In extensive grain regions, however, most of the crop has to be stacked out without cover, and the form of stack here shown is a good model.

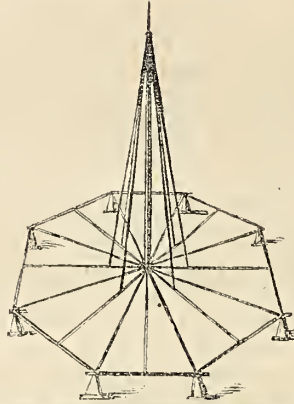


The first important requisite is a good, *well-ventilated* foundation. A very common method is to lay a tier of rails upon the ground, at a distance of two or three feet apart, and cross rails over these, upon which the stack is commenced. If this cross-work of rails is carried sufficiently high, it answers pretty well. But we have seen so many wet and moldy bottoms, that we urge special attention to this, the starting point, and recommend posts set in the ground as above. These need not necessarily be conical, as shown, but may be simply pieces sawn from logs, and set on end. They may be as numerous as desired, depending upon the strength of the bottom timbers, and the firmness of the ground. Of course they should be set about the centre, as well as the outer part of the stack. Upon these posts lay stiff rails, or small timbers sufficiently close to prevent the sheaves from falling through. A central pole, set firmly into the ground, assists the builder to carry up the sides evenly, and prevents settling towards one side.

Commence by laying a tier of sheaves around the centre forming the base of the stack, with the butts outward, packing them closely. A second tier is next laid down, with the heads extending a little over the butts of the first, and so on, always keeping the top or seed end of the sheaves highest, and towards the center. This is important, so that any water finding its way in at the top, will run towards the outer edge, rather than the centre of the stack. Continue in the same manner, laying the inner tier, and binding it with the second, and so on. The sides should be carried up, either perpendicular, or a little projecting, as shown in the cut, for some six or eight feet, according to the size of the stack, and then be gradually drawn in. Two important points should be strictly observed at this stage, as indeed throughout its whole construction, viz.: keep the centre a little the highest, and the outer circles

well bound by the inner ones. Having shaped the top, as seen above, by constantly drawing in, and elevating the centre still more, until it reaches a point near the top of the pole, allow it to stand for a few days to settle, if the weather is favorable, after which, it may be so thatched and capped with rye straw, so as to render it water-proof.

A stack finished in this manner may not only stand for a long time uninjured, but is quite pleasant to look upon, and a goodly number of them betokens a thrifty farmer.



In England, where there is less dry weather and sun, in addition to the elevated foundation, they are accustomed to insert upright poles, with the lower end fastened to the timbers, one and a half to two feet distance from the central pole, and confined to it near the top, as shown above.

The grain is stacked about these poles in such a manner that an opening is left in the centre, extending to the top. The supporting posts used are often capped with flat stones or plank extending over them, to prevent rats and mice from getting into the stack.

TIM BUNKER ON THE WEAKER BRETHREN.

MR. EDITOR.—I see by a former number of the *Agriculturist* that you had your reporter up here, taking notes at our Farmers' Club. I had no idea that he was around, or I should have fixed up my remarks in a little better shape, and dove-tailed the argument on mixed papers a little tighter together. I hold that what a man sees fit to print, should be water tight. I want you to understand, and the public also, that I am not responsible for anything the reporters say about me, and that none of Tim Bunker's sayings are the genuine article, unless they come direct from Hookertown, and are over my name. You see they have got to counterfeiting my name already, just as they have Perry Davis', the inventor of the pain killer, and old Dr. Townsend's sarsaparilla. It was only the other day, that I saw a lot of my sayings in the *Times* about bad butter, that were never designed for the public at all. It was a private talk between me and my old friend Jones, and who in the world put them things in that paper, is more than I can tell. It must be confessed, however, that he got the substance of what we said across the table, pretty near correct. I suspect Jones, the sly dog, knows more about it, than he would like to tell.

I took my pen in hand, to say a word about a class of farmers we have up here in our neighborhood. You see, in the church, they have a kind of members, that the minister calls "the weaker brethren." They

don't seem to have faith enough in them to make their religion of any account. They are always at the tail end of the heap, and like the stragglers in a flock of sheep, under the wall, or stuck fast in the mud. They are a disgrace to the cause.

Now we have some Hookertown farmers, that make me think of these weaker brethren 'fore all the world. They don't read the papers, and don't believe in good farming any more than such disciples believe the gospel. You can not get them to take the agricultural journals and they laugh at all the new tools that have been invented to help farmers in their work. Instead of cleaning up their fields so as to use a mowing machine, they sweat over the scythe at the rate of an acre a day. Instead of having a barn cellar to save manure, it is mostly wasted in the yards and highways. Instead of sheltering cattle, in the cold snowy weather, they fodder them out at a stack all winter. I do not know but I am wicked, but I wish every one of them could have been out that cold night in January, when the mercury froze. I think they would have learned to pity dumb cattle. I find such farmers are always complaining of hard times, and are never able to pay their debts. They are always running down farming, and talking about emigrating to the west, just as if a change of place was a going to change their characters, and make such shiftless farmers, thriving men.

Now I have been thinking that these weaker brethren were living on "Missionary ground" as the saying is, and that the farmers who read the papers ought to come over and help them. It is no use for you to advertise your paper on this account, for such people do not take any paper either political or religious. If one of your agents were to come along, and ask them to subscribe, they would feel insulted, if they could get near enough to them to make their business known. I am going to propose to our Farmers' Club to go out among these weaker brethren and see if we can't get them to take the papers, and mend their ways. You see they can't say we are mere book-farmers, and that our notions are all moonshine, for they know that our farms look enough sight better than theirs, and that our farming pays, so that we have money to lend. After all, Mr. Editor, there is nothing like an argument with the hard coin at the end of it. It does weigh. They appreciate the farming that brings the clean cash. That is the kind of farming we find your paper recommends, and as it is a poor rule that don't work both ways, I send you the clean cash for a dozen subscribers gathered among these weaker brethren. Consider these as the first fruits.

Yours to command,
TIMOTHY BUNKER, Esq.

Never subject a plant to a rapid change of temperature. Sudden check or sudden excitement are equally injurious.

Never tie up lettuce or endives, or earth up celery, except when perfectly dry. They are liable to spoil, if you do.

HARDY ORNAMENTAL VINES.

We have recently referred to the desirability of planting shrubbery, and various other flowering plants around the farmhouse and all country dwellings. But we have not spoken with that particularity and emphasis which we desire respecting *climbing* plants. No building—unless it be a bank, post-office, store, or some structure of the kind, devoted exclusively to business—is complete without these leafy adornments. It is with human dwellings as with human character: they should exhibit a gracefulness and beauty, as well as strength and rigid propriety. A man who is always very proper in his ways, and as systematic as the multiplication table, may make a very good statue, but he is not a complete man unless he has some of the juices of humanity, is winning, graceful, loveable. So with a house: it is not enough that it is firmly built, of ample size, and kept in good repair; it needs the surroundings of trees and lawns, of birds and flowers, and clambering vines. Then it becomes home-like, and wins our hearts. Moreover, there are few houses so perfect in proportion and finish as not to require the slight concealments and embellishment afforded by vines. A Trumpet Creeper, shooting up to the second story window, and hanging its tubular flowers about the gable, will atone for many an oversight in the plan of the dwelling. A Chinese Wistaria rambling over the sides of a house, or suspending its clusters of pearly-lilac blossoms over the doorway, does much towards supplying the absence of stucco and elaborately carved verandas. A climbing rose swaying about an open window in Summer, and wafting its fragrance through all the dwelling—as does a “Baltimore Belle” at the window where we now write—what can be more charming?

Happily for us, the list of hardy ornamental vines is so large that every taste can be suited. Among the best plants, we mention the following:

American Ivy.—This is sometimes called Virginia Creeper, and, by the botanists, *Ampelopsis*, but we prefer the simple name, American Ivy, because the plant is indigenous in nearly every part of this country, and resembles the ivy of Europe in many respects. It has but an indifferent flower, but it is perfectly hardy, grows rapidly in any soil or situation, is not infested with insects, has a dark green, glossy foliage throughout the entire Summer, which in Autumn fades off into a most brilliant crimson. Mr. Downing says: “It will grow anywhere in the coldest situations, and only asks to be planted to work out its own problem of beauty without further attention.” We would recommend this as the best vine to plant by the side of churches in the Northern States, especially those built of stone or brick. In a short time, it will cling to the wall, and clothe its surface with a beauty equal to any carving in stone.

Chinese Wistaria.—We rank this second to the one just named, because it is less hardy. North of the latitude of Albany, it

is frequently injured by the Winter: south of that, it must stand as the peer among ornamental vines. It grows luxuriantly, and has beautiful pale purple blossoms, which appear in April and May. The flowers hang in clusters like those of the locust, only much larger. In some seasons the vine flowers a second time. Amateurs sometimes plant it by the side of a pole on the open lawn, and by frequent pruning for several years, give it the habit of a weeping tree.

The Honeysuckles.—Of these there are several varieties, possessing various excellencies. Where the climate will permit its cultivation, nothing can be finer than the Japan or Chinese Twining, but for northern gardens, it is too tender. The best plants of this family, all things considered, are the Scarlet and Yellow Trumpet Honeysuckles. They are hardy, are not infested with insects, grow fast, and bloom all Summer.

Prairie Roses.—A few years ago, we ranked these rather higher than we now do. Their luxuriant growth and prodigality of flowers are certainly in their favor. But that luxuriant growth is often killed to the ground in Winter, and at best, the season of flowers is only a short one. Added to this, the vines are annually infested with insects which destroy their beauty, unless warred against. If one will take the pains to lay down his vines on the ground every Fall, in cold latitudes, and to syringe them with whale oil soap diluted with water every Summer, the Prairie Rose will deservedly stand high on his list of vines. This has been our own practice for several years, and in our view, it pays well: but most people will not take this trouble, and for them, therefore, we do not highly recommend these vines. To those who will take care of them, we say, plant Queen of the Prairies, Baltimore Belle (desirable for its Tea Rose odor), Eva Corinne, Mrs. Hovey, and Pride of Washington.

Dutchman's Pipe—(*Aristolochia siphon*) called also Birthwort, and Pipe Vine. A bold and striking vine, suitable for rambling over a rustic arbor or cedar pole. Its huge round leaves hanging one over the other, completely exclude the rays of the sun. Its flowers are more odd than beautiful, resembling a Dutchman's pipe more than anything else.

The Grape Vine.—We should have mentioned this earlier in our series, had we not regarded it as belonging more appropriately to the fruit garden or to the sunny sides of houses, barns, sheds, &c., where it can be pruned and trained solely for its fruit. If used for ornament, and allowed to ramble at its own sweet will, we think the grape vine very beautiful. And if any one of our readers is so practical as to discard from his dwelling all embellishment that is not strictly useful, we would certainly humor his prejudices so much as to advise him to plant grape vines by the side of his front porch.

These, though not all, are undoubtedly the best hardy ornamental vines. Some

persons will hardly pardon us for omitting the Trumpet Creeper, and the variety with larger and cup-shaped blossoms; but with all our admiration for it, we must leave it out of our list of *hardy* vines. The Clematis of several sorts—not forgetting the sweet-scented *Flammula*—has great merits; and many of the Noisette and other roses are very desirable in softer climates; but for the North, and for those who want vines that will generally take care of themselves, our catalogue could not well be much enlarged. The plants we have mentioned are beautiful and varied enough to invest our northern homes with great attractions.

PRESERVATION OF GRAPES FRESH.

For a long time it was a cause of lamentation among fruit-growers and housekeepers, that the abundant and delicious fruits of Summer and Autumn could be enjoyed only for a very short period. But ingenuity at length contrived, and nearly perpetuated, a plan by which most of these fruits might be kept in their original state for a great length of time. Strawberries, cherries, raspberries, peaches, tomatoes, pears and the like, are now preserved annually in large quantities, in sealed jars and cans, in as fine a state almost, as when first gathered. Grapes, we presume, might be kept in the same way; but it would be somewhat expensive to provide jars enough for the product of a single thrifty vine. Several other methods have been tried, with more or less success; but so far as we can learn, a perfectly satisfactory mode has not yet been hit upon. It is in the hope of helping forward to such a result, that we now write. The subject is one about which the fruit-raising and the fruit-eating public have much to learn.

In the preservation of fruit, certain general principles must be taken into account. It is the natural tendency of all fruit to commence the process of decay soon after it has arrived at full maturity. With some, this deterioration is much more rapid than with others. Decomposition is hastened by the action of frost, heat, light, moisture, by sudden changes from heat to cold, by bruises, and by currents of air. Of course, then, to retard that decomposition, we must withdraw, as far as possible, these causes of decay.

Of the methods adopted to preserve grapes, in accordance with these principles, we record the following:

1. The grapes are suffered to become just fairly ripe, and no more, before gathering. They are *cut*, not *pulled*, from the vines, in the middle of a dry, windy day, from about 11 o'clock in the forenoon to 3 P. M. They are carried in shallow baskets, and spread upon sheets on the floor of a cool, north chamber. The first leisure day is then taken for packing. First, however, all mildewed, rotten or unripe grapes must be carefully culled out and thrown away. The clusters may then be taken to an ice-house and laid in single layers, on shelves made of thin, narrow strips of pine, like slender lattices. Here they will not freeze, but will be

kept in so low and even a temperature that they will remain perfectly fresh until Christmas.

2. Another method is, after gathering them in the careful manner above noted, to cover the cut ends of the stems with sealing wax, and then pack the clusters in cotton wadding. They say *wadding* instead of *battling*, because the glazed surface of the former prevents the fibres of the cotton from adhering to the stems. To be more particular, the process is as follows: Procure small boxes, about the size of candle-boxes, (but do not get candle-boxes, unless you wish your grapes flavored with the extract of candle,) see to it that they are dry and sweet, cover the bottom with a double thickness of wadding, and put in a layer of grapes. To prevent the clusters from pressing on each other, lay a small roll of cotton between each of them. Next, add a layer of wadding, and then one of grapes, as first directed, and so on, alternately, until the box is filled, covering the whole with cotton, and rolling down the lid. The box should then be set away in a dry, cool place, and kept as cool as possible without freezing. We have practiced this method for several years, with considerable success. A portion of our grapes mold, and others shrink, but out of several boxes we contrive to get very eatable desserts until after New Year's, and later.

This method is varied by some, thus: They use for packing, soft paper shavings, the trimmings found at all book-binders' establishments, in place of cotton. Dried maple leaves are a favorite packing material with others. Sand, washed clean of all vegetable matter, and thoroughly dried, has been successfully used. Certainly, it can impart no flavor to the fruit, and it envelops the berries so perfectly that the air cannot penetrate to injure them. Some of our neighbors have used hemlock saw-dust, thoroughly dried; but they report many of their grapes moldy, and the rest too highly seasoned with hemlock. We do not see why dry bran or oats would not answer a good purpose. A writer, in an early volume of the *Horticulturist*, recommends ash saw-dust, as the very best article for preserving grapes. He bakes it, then sifts it to get out the fine powder, which would otherwise adhere to the grapes. He packs in boxes holding about a peck each, with a layer of saw-dust an inch thick between each layer of grapes. They are stowed away in the garret of his wood-shed until Winter sets in; then they are moved to his cellar. In this way he keeps them fresh until March.

With the above suggestions and facts, we leave this subject for the present, hoping that between this and the time for packing grapes, some of our readers will send us in contributions on this important topic.

Gibbon truly said that the best and most important part of every man's education is that which he gives himself.

In the mouths of many men, soft words are like roses that soldiers put into the muzzles of their muskets on a holiday.

GRAPE CULTURE—NO. VIII.

BY WILLIAM CHORLTON.

OUT-DOOR CULTURE.

Those cultivators who have taken our advice with regard to early removal of superfluous shoots, and shortening in of the fruit branches, will now see the advantage in the promising fruit, and the thick solid texture of the leaves. Instead of leaves hidden from the light, and sun, by the too common overcrowded growth, they are elaborating and concentrating the crude juices from the roots, and carbonizing the previous fluid material; thus forming sugar and aromatic flavor in the berries, and solid buds and woody fibre for next year's development. It is true that our native varieties are usually of more rampant habit when in the open air than most of the exotics, but the rule holds good, nevertheless, and is only subject to a modification in practice. Instead of allowing the plant to extend over a great surface, and perhaps elongate its branches until they would overtop the loftiest trees, and push beyond into the light, where the centralizing action goes on, more beneficial results are accomplished within required limits, and a greater amount of fruit, of even better quality, obtained from a smaller superficial area. Were this more generally attended to, we should not hear of so many instances of decay and falling off of the fruit, or so much respecting the deficiency in ripening.

Continue to keep the ground free from weeds, and when the hoe only is used, let the ground be deeply and well stirred.

Notwithstanding all the care that can be taken there may occasionally be some diseased berries, and now is the time to remove such by cutting them out with the scissors. A little care bestowed in this way will more than repay the labor. It can be done with little expense, even though it be over a large vineyard.

COLD GRAPERY.

During the early part of the month be on the look-out for mildew, more particularly in damp or foggy weather. The sporules are now in the greatest abundance, and will most readily germinate under favorable circumstances. Counteract the liability to this fungus by a dry atmosphere, impregnated with the fumes of sulphur under slow combustion, which the warm air inside the house will afford during a fine day. When the grapes begin to color, or soften to the touch, there is very little further danger from this pest, but water should be discontinued overhead, and a gradually dryer air maintained in the house. It is possible to have ripe fruit in the cold grapery on the first of the month from the earliest varieties, but this is not usually accomplished until the middle or latter part of the month. As the ripening progresses omit the use of water entirely, and give more air, gradually opening the lower ventilators if the weather is favorable. The object now is to ensure a continued steady action in the circulating medium, and prevent sudden checks, which would arrest the chemical changes going on at this critical period, and injure both the coloring property and the flavor of the berries. When the fruit is nearly ripe the upper ventilators may be left open at all times, but it is well to close the lower ones at night to keep out mice and currents of damp air.

FORCING HOUSE.

In this house as much air should be admitted as possible. All the doors and movable windows may be constantly open, excepting during windy or stormy weather, and then they ought to be only so far closed as to ensure safety to the house. Were it not that our glass roofs are

somewhat permanently fixed, it would be better when the grapes are all cut, to take off the glasses and leave the vines entirely exposed, as the rains would wash out many insects, and the birds assist in destroying the remainder, which would, in many instances, save much labor in artificial cleaning without injury to the vines, as the wood is now, or ought to be, pretty well ripened. It seems to be still a disputed point, with many, whether the cultivation of exotic grapes, grown in glass houses, will pay as a commercial product, when the expense and required care are taken into consideration. Now I wish to record only what is strictly reliable, and the result of long experience and actual calculations, with no motive to mislead or to hold out encouragement that may not be realized. Conclusions should not be drawn from individual extremes of success, but taking the account below there is enough margin left, after full allowance for reasonable mischances, to show that a large percentage of profit ought to be made. In proof of this, I append the amount of produce and wholesale market price of the grapes from a house planted by the writer in 1853. It is possible that some persons will not obtain the same results, as successful practice can best be obtained by long experience. There is nothing extraordinary in the vines here spoken of, or beyond the permanent capabilities of others in well-managed houses.

The house was planted with 52 one-year-old vines during the Spring of 1853.

June 21, 1854, commenced to cut the first of a crop consisting of.....	252 bunches.
June 15, 1855, commenced the first of a crop of.....	396 bunches.
June 10, 1856, commenced the first of a crop of.....	706 bunches.
June 7, 1857, commenced the first of a crop of.....	966 bunches.
Total.....	2,320 bunches.

These grapes, taken together, would average 1½ pounds to the bunch, which gives 2,525 pounds. The retail selling price, at the time they might have been taken to market, would be about \$2 per pound, consequently it is certain that \$1 could have been obtained for them at wholesale. Now the expenses for fuel and care, reckoning the labor at \$2 per day, have been, during the whole time, as follows:

Care and labor 1st year.....	\$50
Care and labor 2d year.....	100
Care and labor 3d year.....	200
Care and labor 4th year.....	200— \$350
Fuel 1st year.....	\$40
Fuel 2d year.....	60
Fuel 3d year.....	90
Fuel 4th year.....	100— \$290
Total expense.....	\$840
Which taken from.....	\$2,525
The value of the crop for the four bearing years, leaves a surplus of.....	\$1,685

The original cost of this house was about \$1,200, to which we may add some \$500 for manure, vines, and other requirements, and still the results show, after making allowances for all contingencies, that the whole has cleared the first cost and subsequent expenses, leaving us in possession of a house with the vines included, in full bearing for future profits. In this case expense was no object, and the best method of heating was adopted. A less costly structure, but still quite as effectual, would answer every purpose, showing still further that there is money to be made out of grape forcing. We will speak in like manner of growing without artificial heat in a future number.

RETARDING HOUSE.

The operations of last month in the cold grapery will now apply here, with the exception of maintaining a temperature some 5° lower than there recommended, and using a comparatively less quantity of water. Unless the weather proves very dry, it is best not to use any water at all inside the house, more particularly if mildew makes its appearance.

GRAPES—RAISING FRUIT VS. HUNTING IT.

A BOY'S LETTER.

[The following letter is from a boy subscriber who is a very enthusiastic cultivator, though yet lacking a good many years of being "out of his teens," we believe. We think he is bound to succeed. At his request, we omit his name and residence, which we have.—Ed.]

To the Editor of the American Agriculturist.

Many boys and girls, strange as it may appear, seem to prefer to go wandering through the fields in search of strawberries, and picking their way through muddy swamps, in search of grapes (the first of which, when gathered, are small, sour, and hardly fit to it; and the latter much like leaden bullets), than to raise them, and have large and beautiful fruit. And what is the reason of this? It is because the former method is falsely called *fun*, and the latter *work*. The time spent in searching after fruit would nearly or quite be sufficient to raise much more, and of a better quality.

The grape will repay culture better, or at least as well as any other fruit now grown. Such, at any rate, seems to be the general opinion, if we may judge from the great outlays of money now made, in order that it may be cultivated thoroughly, and to have it at all seasons of the year.

But a great outlay is not always necessary, in order that we may have and enjoy this fruit. The most heavy and laborious work in the cultivation of the vine, is preparing the ground, and this is one of the most important things to be done.

In the first place, the ground intended for the grape border should be measured and marked out. Let it be from four to six feet wide—six is the best—and as long as you wish. Then throw out the black soil on one side, and the yellow soil with the clay or gravel on the other. The deeper it is dug the better, but not less than two feet. Ours is from three to three and a half. This you will find to be the most laborious part of the work, and will require some patience and perseverance. After this was done, we carted small stones into it, having them piled regularly from a foot to fourteen inches high. This you will readily perceive is done for the purpose of draining the border, without which the grape does not succeed nearly as well.

After this is done, add about two or three inches of good soil; then some manure, and continue to fill it up, adding a good quantity of manure, shells, bones, and almost any thing that serves to enrich the soil, and does not injure the vines. Some put in strips and bits of leather, and old woollen rags. Dead cats and dogs are not considered to be beneficial. Do not put in any of the gravel or clay, but supply its place with good soil. After all this is done, then set out the vines nicely and well. If you will sink boards along the edges of the border, it will give the whole a neat appearance, and confine the soil. The ground must then be kept free from weeds, or mulched. If you mulch your border, let the covering be about four inches deep. Mulch is generally considered to be good for grape vines.

For instructions as to the after culture of the grape, I refer you to other persons more experienced in raising the grape than I am. Be assured your parents will be much better pleased to have you spend your time in this manner than in searching after bad fruit.

Your young friend,
UP IN CONNECTICUT, July 13, 1857. GEORGE.

The ardent reformer moves the multitude, but the calm philosopher moves the ardent reformer.

STRAWBERRIES.

CHAPTER VII.

This has not been a favorable season for Strawberries, except in light soil. On rich and heavy soils the abundance of rain has induced too vigorous growth of leaf. We have noticed some new varieties of much promise, but it will require another season to test them fully; we want a few varieties of perfect plants, that is, plants perfect in both sexual organs, of great *constitutional vigor*; plants that may be cultivated separately, and at such distances that they can be kept clean with a hoe in the same manner as cabbage plants. A friend has been raising plants from seed for several years, with a view to obtain, if possible, varieties of greater vigor than any that have been hitherto produced. He has obtained two varieties which promise well in this respect. The plants are now two feet in diameter, and still growing most luxuriantly; they both fruited this summer, the berries were very large and good. Another year will fully test their merits, but they will not be offered to the public without having first received the unqualified approbation of disinterested and well qualified judges. For the present we cannot recommend any kinds more highly than Longworth's Prolific and Hovey's Seedling for a main crop.

August and September are suitable months for setting out new beds, and if the plants are properly cared for, they will produce some fine fruit next summer; success will depend almost wholly on the proper management of the plants. Let the ground be well enriched with thoroughly decomposed stable manure; if trenched eighteen inches or two feet deep so much the better. Select the finest young plants, and remove them with as many of the roots as possible. Be careful to protect the roots from injury before planting. The best way to do this is to cover them immediately with some earth. The best time to plant is immediately after a rain, and during cloudy weather, or in the evening. We prefer planting in drills, two feet apart. At this season, the plants may be set much closer in the row than in the Spring, as they will not become very large before Winter. Put them about nine inches apart; then, after they have fruited next Summer, one-half of the plants may be removed. We keep our beds clean by passing a rake between the rows, at short intervals of time. This keeps the ground mellow, and promotes the growth of the plants. The most effectual mode of keeping the young transplanted vines from being injured by the sun, is to scatter some new mown grass over the bed. This will not only protect the plants from the scorching influence of the sun, but will also prevent the too sudden evaporation of the water applied to them at the time of planting.

It has been recommended of late to raise strawberries upon poor sandy land, without any manure. Now, this we deem to be sheer nonsense. We have never been able to raise fine strawberries without a liberal supply of manure, and this is the general experience.

THE GENERAL AIMS OF GARDENING IN AUGUST
Are to prevent weeds from going to seed, to remove and secure crops that are ripe, to keep up a succession of vegetables and fruits for Fall and Winter use, to water copiously whatever the usual drouth makes it needful to water, to save all ripe seeds for sowing or planting, to complete the preparation of composts, and to trench, if the ground is not too dry, new squares for the enlargement of the next year's work. These, with the most careful attention to crops still growing, will make August by no means an idle month, even in the garden.

CELERY.

It is not too late to plant out a good supply of this for fall and winter use. Plants from seed sown in March and April were doubtless set in trenches in June and July, and now require earthing up for early use. Celery sown in May attains a suitable size for planting out during the latter part of July or first of August. It is better to prepare the trenches a little in advance, but if this was not done last month there should be no delay now, as the plants require putting in at once.

Lay off the rows a foot wide and three feet apart, dig one spade deep in the row, placing the earth upon each side of the trenches. Spread four to six inches of well rotted manure in the trenches, and work it in thoroughly by spading a little deeper and paring the edges. Some of the loose earth thrown out may be returned so that the surface to plant upon shall be four to six inches below the original level.

Before removing the plants let the seed bed be thoroughly watered, which will cause the earth to adhere to the rootlets and render transplanting safer. After lifting the plants carefully, clip the tap root to induce side branches, shorten the straggling leaves, and remove side suckers. Set them in single rows along the center of the trench, five or six inches apart, and give a good watering to settle the earth about the roots. Shade for a few days by laying sticks across the trenches and covering with boards or brush, removing it as soon as they commence an active growth. The after treatment will consist in keeping the ground well stirred and free from weeds, with an occasional watering during dry weather, until they are ready to receive the final blanching operation. From the middle of September to the first of October will be the proper time to commence earthing up. Break the ground about the plants with a spade, and carefully gathering the stalks in the hand, draw the fine earth around them, without allowing the dirt to fall into the center or heart of the plant. This earthing up should always be done during dry weather, and the planting should never be upon naturally wet soil. Repeat this hilling at intervals of ten to fifteen days until the stalks are blanched sufficiently high. Previous to the latter earthings it is better to gather the leaves carefully in the hand and tie them up with bass, or soft strings, taking care not to bruise the stalks. Carefully avoid covering the crown of the plant which would induce decay.

WINTER ONIONS AND LETTUCE.

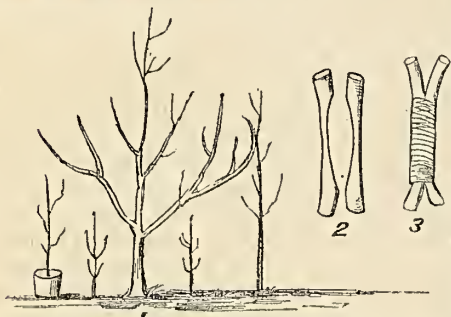
You like onions, either as salad or otherwise! Would you like to have them fresh very early in the Spring, before they could grow after Spring planting? "Of course I would." Very well, then perhaps we can help you to them. Select a good spot of ground, prepare it well, and make one bed of onions about the 10th of August. Make another about the 1st of September. Sow the seed quite thick. Let them grow till Winter, keeping the beds free from weeds, and thinning them out a very little. When Winter comes, cover them over with a good coat of coarse litter. Further south, the covering may be lighter. You may thus have the onions for use in March or April next year. They will be excellent then, if you like onions.

Sow a bed of lettuce in the same way, at the same time or later, and protect it in the same manner, and you may have that luxury also very early in the Spring. Try both of these operations and you will probably thank us next Spring for these hints.

INARCHING—OR GRAFTING BY APPROACH.

“What is ‘Inarching?’” asks an enquirer, and the question is well put, as comparatively few understand the process. In short, it is uniting a branch of one tree, shrub, or plant to the limb or stock of another, so that the two will grow firmly together, after which the united limb may be cut off from the parent stock, and left to grow upon the new tree to which it has been attached. By this process we may often unite a scion to a tree more readily and more successfully than in the ordinary processes of grafting or budding. Let us explain by an illustration:

Take for example a *Magnolia conspicua*, a fine low branching specimen growing in the open ground. Plant in a circle around this another variety, say *Magnolia glauca* or *acuminata*, setting the latter so that the branches of the central tree can be brought in contact with the bodies of the trees in the circle as seen in fig. 1.



It is better to set out these trees at least one year before the grafting is attempted, and then it is probable that only a portion of them will be in condition and position the first year to receive a head from the parent or central tree.

Select a branch of the specimen tree which can be brought into contact with the body of one of the circular plants, and with a sharp knife pare away one side of each for about two inches in length, as seen in fig. 2. Let the scion and stock be as nearly of the same size as possible, and of straight smooth growth. The engraver has represented the limb to be larger than the stock to which it is to be attached. If there be any variation, let the stock be the largest. Let them be pared alike and bring them together so that the bark shall exactly meet on one if not on both edges of the pared portions. Then bind them firmly, as seen in fig. 3. Soft bass, or strips of muslin coated with grafting cement may be used for the bandage. If *strings* of any kind are employed, it is better to cover the whole with grafting clay, or wax, to exclude the sun. The coated cloth is preferable, but it must be firm, or an outer string be used to prevent the wind from parting them. A union is rendered more certain by making a slit in each as in tongue-grafting, passing the knife upward in the scion or branch, and downward in the stock, and then pressing them closely together. This, however, is not essential except in those varieties which are difficult to unite. If much exposed, confine the branches by tying to stakes, or to limbs of the parent tree, to prevent swaying by the wind.

We prefer leaving them in this condition till the following season, except in some rapid growing varieties which have evidently united in a short time. These may have the *top* of the small tree or stock cut off, just above the point of union, in three weeks from the time of inarching; but ordinarily they may remain till the next spring, when both the *top* of the one and the *bottom* of the other are cut away, removing the scion from its parent immediately *below* the place of contact. We now have a top from the choicest variety upon

a trunk of a more common sort. The body below the graft should be kept free from leaves or branches, and in a few years new wood will hide all appearance of the wound.

Where the branches of the tree intended to be propagated from are at a distance from the ground, a temporary stage may be erected, and the stocks, planted in pots, be placed upon boards at convenient places to receive the new top.

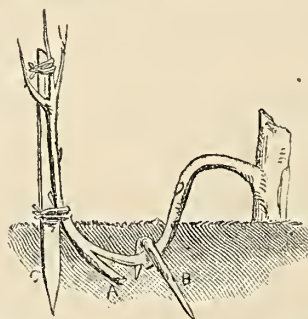
Potted plants in the forcing or green-house are conveniently inarched by placing them side by side upon the shelf, turning them so as to bring suitable branches in contact, which are united in the above manner.

Inarching may be done from May to the end of August, though we prefer June and July, if the trees are in vigorous growth.

WHAT IS LAYERING?

There is a large class of trees, shrubs and vines, which do not grow readily by cuttings, and which are with difficulty obtained from seed. Others take root (“strike”) more easily, and appear to thrive tolerably well during the moist weather of Spring, but when the drouth of mid-summer comes on, having very little root of their own, and no parent stock to draw upon, they dry out.

To propagate such plants, a very simple, easily performed, and successful mode of application is adopted, called “layering.” This consists in bending down vines, or branches of shrubs, and bedding them in the earth at one or more points, without previously cutting from the parent root. At the joints or buds, and even elsewhere, the stems thus covered send out roots, and after a time these become so strong that the layered branch or vine can be cut off to grow upon its own new roots. To facilitate the striking of new roots, it is customary to wound the layered stem by partially cutting it at the point where roots are desired. We introduce an illustration of simple Layering.



A. Cut or slit to promote striking. B. Crotched stick to hold down the vine. C. Stake to turn new shoot upward.

Grape-vines, Gooseberries, Roses, Honeysuckles, and numerous flowering shrubs may be layered (or laid in) during the early part of this month, (August), and they will root so that they may be removed in the Fall or coming Spring. The principal layering is usually performed in early Spring, or in Autumn, on wood of the previous season's growth.

The Nursery Gardener frequently sets out plants which he wishes to propagate in this way, four to six feet apart, and heads them down. They then throw out several side shoots, which may be layered the following Spring. These stocks are now called *stools*, and are kept for the sole purpose of furnishing layers, the new growth of each season being laid down in the Fall or following Spring. The ground around them must be kept deeply stirred, and if mulched to retain the moisture, so much the better. Some varie-

ties of evergreens, and a few deciduous trees, require two or three years to establish themselves sufficiently upon the new roots, but by far the largest class will require only one season. Branches which cannot be brought to the ground are sometimes layered by placing pots or boxes of earth upon shelves, and having adjusted the branch selected, keep the earth in the pot or box moist by frequent waterings.



In explanation of the process, we introduce a section of a grape-vine containing a shoot of last year's growth. Having loosened or spaded the ground, remove from five to six inches of earth, and lay the shoot in this trench, pinning it down with a hooked stick, as represented in the figure. Replace the earth, leaving one or two feet of the extremity out of ground. If the shoot is sufficiently long, a second portion may in like manner be layered, as seen above. To facilitate the pushing out of fibres, make an upward cut or slit in the branch, immediately beneath a bud, and near the point at which it is pegged down. A twist with the hand, or a split with an awl or knife, answers a like purpose. In most cases, the branch may be cut from its parent in the following Fall or Spring, and planted out upon its new root. A stiff branch may sometimes require splitting with a knife before it can be brought to the ground, and will need a strong peg to hold it there. Stiff woody shrubs or trees will require bending up and staking to form an upright trunk, as shown above. A slight curve near the ground can be hidden by planting a little deeper after removal.

CURRENTS AS A MARKET CROP.

That there are superior currants to those ordinarily grown, we know from every day's observation. We should be glad to show all our readers the fruit now ripening upon the tree described and illustrated on page 112 of this volume (May number). We have just been shown a single branch or limb of the Cherry Currant, raised by Messrs. Wells & Provost, at Yonkers, N. Y. This branch is about 15 inches in length, and half an inch in diameter, and yet contains fully three-fourths of a pound of berries, the smallest of which are 1½ inches in circumference, and the largest over 1¾ inches. These cultivators are putting out thirty acres of this variety, to raise fruit for preserving. We have also before us splendid bunches of the Cherry Currant, grown by C. F. Erhard, of Ravenswood, L. I., who is raising a large stock of the plants for market. The berries before us are 1¼ to 1½ inches in circumference. Another gentleman, whose name and residence we did not learn, recently brought into our office specimen berries still larger than either of the above.

These, and many other specimens we have seen, give abundant evidence that there is sufficient opportunity to improve upon the old stereotyped small varieties, hitherto the standard crop. We are testing several varieties of the newer sorts, and shall be able to report by another season. So far, we incline to place the genuine Cherry Currant ahead of all others. There are

some sold as such, which are not the genuine.

Common small currants now sell readily in this market for 5 to 6 cents per pound, and the best large improved varieties bring 10 to 12 cents.

Let us look a moment at the profit of raising currants at present market rates. Planted in rows four to five feet apart, they can be plowed and hoed between with ease. At four feet apart, 2,722 bushes will occupy an acre. At a very moderate estimate, each plant will yield five pounds. These, at only five cents per pound (less than half the present price), will give \$685, 50 as the product of an acre. This certainly shows a fair chance for profit on this crop. Usually the yield will be much larger than we have given above, on plants three years old and upward, and the price of the improved varieties we have named, will seldom, if ever, be so low as five cents. We refer to page 112, this volume for directions as to culture, pruning, &c.

WHAT OF THE OSAGE ORANGE?

In response to inquiries, we promised in our June number to give special attention to this plant during our Western travels. We have done so, and after seeing the plant in almost every stage of growth, in a variety of situations, climate, &c., in seven or eight different States, and after conversing with a great number who have tried it, or are now doing so, we confess to being more unsettled than ever in regard to the general adaptability of the Osage Orange for hedging. In short, we have not yet that faith in it which would lead us to be at the expense of planting out five hundred rods of it, in any place or under any circumstances where there was any other resort whatever for fencing. We expect this statement will call forth strong protests, for we have visited a few localities where the plant now promises to succeed, and we doubt not it will sometimes be successful, but we certainly speak within due limits, when we say that *so far* the failures have far exceeded the cases of success. It would greatly exceed our limits to note particularly the several examinations we have made, and we can only speak in general terms.

Out of 47 hedges we examined, 23 were badly injured by frost, either last winter or the winter before; 7 were considerably injured, and 4 slightly so. Of the 13 apparently uninjured, 7 were sheltered by hill sides, groves, or by snow banks produced by adjacent fences. We heard of several others uninjured, but did not see them.

We met but three persons who had tried them, and who were not interested in the sale of plants or to sustain a reputation for past statements, who were ready to give them their present hearty endorsement. A gentleman in the Great Miami Valley, (Western Ohio,) showed us a very good hedge *on the east side of a hill and sheltered by it*. He seemed to have confidence in the plant, and stated that a number of farmers in the vicinity were putting out new plots.

Another in Western New-York, has a young hedge which has escaped freezing, and he is confident that the plant will flourish there. Another in Central Illinois, has a hedge now three years old from the setting which though a little nipped by frost is sending out new shoots, and the owner is so confident of success that he is preparing to plant out two miles.

A large land-holder, near Knoxville, Ill., informed us that he had intended to plant several miles, but since the results of last winter's frosts have been developed, he has given up all idea of trying this hedge plant, and he is now looking around for a substitute.

An intelligent farmer in Kendall County Ill.,

who has been watching this plant since its first introduction, and who has made long journeys of observation to settle the question for himself, said to us: "I have come to the conclusion that the Osage Orange will answer for a hedge, so long as you have a good rail fence on one side and a board fence on the other." Others, in Ohio, Indiana and Illinois, expressed similar opinions. Many think there is no doubt but a good hedge may be produced with the Osage Orange *if it is carefully attended to for a few years*. But here is one great difficulty.

The experiment of planting a hundred miles along the Illinois Central Railroad, heralded so loudly some two years since, was commenced, but is given up entirely we believe, and the portion planted is proving a failure, "for want of care," it is said.

We have thus expressed our present opinion of this plant, with a very few of the practical reasons therefor. Just such a hedging plant as the Osage Orange has been represented to be, is greatly needed; and so great is the want that we will still cling to the hope that in many localities it will flourish. The almost constant care required will in any case be an objection, but not a fatal one we trust, over millions of acres almost or quite devoid of fencing materials.

We shall be glad to hear from our readers of this topic. We want facts however—not opinions, unless such opinions are exceedingly well fortified by facts. Let us endeavor to ascertain under precisely what circumstances of soil, latitude, climate, exposure or protection, the Osage Orange will grow, or rather *has* grown to sufficient height and thickness to form a safe and reliable hedge. Let us know what expense, including outlays of time as well as money, is required to bring the hedge to a useful condition, and also how much care is annually needed thereafter.

In the meantime, while we cannot at present advise any one to enter largely into the use of this plant, we think it desirable that experiments should be continued. Half a dozen years or less will settle the question. Almost any one can readily put out a border of ten, twenty or thirty rods in length, and himself test its adaptedness to his circumstances and locality. This might be done in different places, by Farmers' Clubs or Associations. Such experiments would be of even more interest and value to a community, than the best conducted exhibitions, though neither should be neglected.

P. S. Since the above was put in type, we have been looking over some hundreds of letters, accumulated during our absence, and in these we find several quite favorable allusions to the Osage Orange, with a few not so favorable. We shall examine these more carefully hereafter.

ECONOMY IN KILLING WEEDS.

Mr. Slapdash hoes his garden in a great hurry, and grudges every hour he spends among the onions, beets and strawberries. Corn and potatoes are his favorite plants. The garden he overlooks, and when the cultivation is attempted, it is but half done. The soil is not stirred close up to the plants, and the germinating seeds will be above ground in two days, all along the neglected strip next to the drill. Even the weeds hoed up, especially the purslane, will be well rooted again in a week, and his garden will sadly need hoeing again.

Farmer Steady knows a thing or two about the garden, that it pays better than any part of the farm, and that thoroughness in weeding saves time. He takes a basket along when he weeds the beds and drills, and every handful is carefully

gathered up. He believes in hoeing often, but does not want the weeds to obstruct the hoe. He knows that he can stir the soil in half the time, where it is clear of weeds. He has use for the weeds too, and thinks it would almost pay to devote a plot of ground to them, if they did not grow so freely among the vegetables. Of course, the pigs have their share, and thrive as well upon them as if they were "pigs in clover." But the biddies also have a large allowance. They are not suffered to run at large, and destroy everything in the garden. In the yards, they need green food, as much as pigs and neat stock. The eggs they lay is a caution to the whole Slapdash family to save their weeds, and thus get cheap eggs and pork, while they save labor in cultivating the garden.

ABOUT PRESERVES AND PRESERVING.

In this age of "fast living," among the few things to be reckoned as improvements upon the "good old ways," we think not the least important is the growing tendency to discard the use of the old fashioned "Preserves." The method of adding to a lot of fruit an equal weight of sugar, and then boiling it down by the hour, until all the natural aroma of the fruit is destroyed, and a concentrated mass of indigestible "sweet meats" is produced, we have long esteemed not only as a foolish practice, but one directly conducive to ill health. The smallest quantity of these articles taken into the stomach is so much poison, since it enters at once into the acid fermentation, and produces disarrangement of the digestive organs, though persons in robust health have for a time managed to live along in spite of this tax upon their systems. With this view of the subject, we can but hail as a decided boon, the recently introduced processes of conserving fruits and vegetables in a condition nearly as they are prepared for food by nature.

We have frequently referred to the "Air-tight" or "Self-sealing" Cans and Jars, and after the experience of another year, we are prepared to recommend their use still more strongly than ever. To-day, (July 25th,) we opened a can of tomatoes, and we found them just as nice and fresh as when they were picked from the vines last year, and all the Spring and Summer thus far we have had peaches, cherries, strawberries, raspberries, and other small fruits in a well kept, fresh condition, not "steeped in sugar," or boiled to a jelly, but the simple fruits themselves, possessing the delicious taste and aroma of those just gathered and cooked. These have been kept equally well in tin cans manufactured by Taylor & Hodgkett, (now E. Ketcham & Co.,) by Wells & Provost, and by Arthur & Co. Tomatoes have also kept just as well in the earthen jars described on page 255 of our last volume, (Aug. 1856). We did not try the jars for other fruits than tomatoes, but shall do so this season, under the belief that they will answer nearly as well as the tin cans.

EARTHEN JARS.

These are of the common stone ware, those being selected which have the "glazing" perfect, without and within, and having closely fitting covers. The two-quart size is most convenient, and the higher and narrower the jars the better. Ours are 8 to 9 inches high, and 4½ to 6 inches outside diameter. The neck is drawn in an inch below the top, and then flares outward, so that the cover fits closely down into the neck, leaving a vacant space of half an inch above it.

The tomatoes kept in these were picked when just fully ripe, before any decay had commenced, and dropped into hot water a moment to facili-

tate removing the cuticle or thin skin. They were next salted and boiled, just as if for immediate use, no water being added to cook them in, and then put into the jars, previously well scalded, the jars made just full, and the lids put in loosely. They were then set into kettles of cold water, to avoid breaking them, the water around them being nearly up to the neck on the outside. The water was then made hot, and kept so twenty minutes, or long enough to raise the fruit within the jars to the boiling point, and thus expel any enclosed air. The lid was taken up for a minute, near the close, to allow a free escape of air and steam, and then placed back closely down upon the fruit, adding some more cooked fruit when necessary to make the jar just full and leave no air under the cover. Before placing the cover down the last time, it should be wiped clean, and also wipe the jar above the fruit. A circular piece of Canton (cotton) flannel, a little larger than the lid, should be put under it. The jars were then removed from the water, and melted bees-wax poured in upon the cover. While the wax was still hot, the projecting edge of the flannel was carefully pressed down into any place where the cover did not chance to fit tightly, and wax enough then added to make a perfectly tight joint. After the jars were wiped dry, they were examined carefully, and a little wax put upon any imperfect places, on the outside. Where they are designed to be kept for a year or two, we recommend rubbing all over their bottom, as well as sides, while still warm, a cloth dipped in melted wax, or a cake of wax will do. This will render them perfectly air-tight.

Good two-quart jars can be everywhere obtained for 12 to 20 cents each. The process described above is not difficult nor troublesome, and we think the jars will answer just as well for other fruits as for tomatoes. For currants and other acid (sour) fruits, they are better than any kind of metallic cans. They are not, however, as convenient as the tin cans, and where the latter are easily obtainable, they are to be preferred for sweet fruits, such as peaches, pears, sweet cherries, berries, &c.

TIN CANS FOR PRESERVING.

The original form of these is, an air-tight tin canister, with a circular opening in the top, large enough to put in the fruit, and a small tin cover to fit over this, with a pin-hole in the centre. The fruit is then put in, and the cover soldered on. The can is next set into boiling water, and heated until all air is expelled through the pin-hole, and steam issues rapidly, when the can is lifted out, and a drop of solder put upon the pin-hole. As comparatively few persons can use the soldering-iron well, this kind of can is not adapted to general use. They are not easily opened, and are seldom good for a second year, at least, without the aid of a tinner. Except in large fruit-preserving establishments, and even in many of these, they are now superseded by what are called

"SELF-SEALING CANS"

These are prepared with a wide metallic neck, and screw cover, as in Ketcham & Co.'s (Taylor & Hodget's), Wells & Provost's (Spratt's), and others; or, like Arthur & Co.'s, they have a cup-like flange around the top, to be filled with wax or cement, into which is set the edge of the cover. Any of these cans answer a good purpose. We have used all of them, and found little difference, though our principal experience has been with the two first named. The particulars as to cost, &c., can be learned in our advertising columns. They can be used for several years, if well taken care of.

As full directions for using these cans are always furnished to purchasers, we will not take up space for more than a general remark or two.

In no case trust alone to the screw cover and India rubber under it to secure perfect exclusion of air. Bees-wax is cheap, and a little of this, melted and put upon every point where air may get in, will give double protection. Glass bottles may be filled with fruit, and stopped with a cork dipped in melted bees-wax, and then, by adding a coat of melted wax over and around the top, no air will enter. We have a glass flask in our office, freed from air, and stopped in the above manner with cork and wax, 4½ years since, and the air has not yet entered it, as is shown by the heavy lead-like fall of a quantity of water enclosed.

Always take fruit just at the point of ripening, and use it as soon as possible after picking, rejecting any specimens that have been at all bruised.

Small Type.—The remaining pages are not set in smaller type because less important than the preceding, but to make room for more matter in the same space.

FOR THE BOYS AND GIRLS.

Well, well, Boys and Girls! We came home from "out West" just in time to put this paper to "press" at a late date, and we found a whole hat-full, yes, two hat-fulls of Boys' and Girls' letters, giving answers to the problems in our July number, and on other matters. Some of them contain very pretty drawings. We took the first opportunity to look them over, but after spending several hours, assisted by the Editress, in trying to sort them out, and get some of them ready for the engraver, we gave up in despair of doing it now. So we are compelled to ask you to wait until our next number, when we will give you extra space. For the benefit of our Pennsylvanian Boy and Girl readers, and a good many new ones elsewhere, we will repeat the problems to be answered next month.

PROBLEM 3.—How can 10 trees be planted so that there shall be 5 rows and 4 trees in each row?

PROBLEM 4.—How can 12 trees be planted so as to have 6 rows and 4 trees in each row?

PROBLEM 5.—How can 19 trees be planted so as to have 9 rows and yet 5 trees in each row?

PROBLEM 6.—How can 27 trees be planted so as to have 9 rows and 6 trees in each row?

NOTES UPON VALUABLE BOOKS.

[*Purchasing Books.*—Book selling is no part of our business, and we would prefer to have all our readers get such works as they desire directly from the publishers, or from a regular book-seller. But many are remote from book stores, and are cautious about sending money to unknown publishers. To accommodate such, we will at any time be happy to procure any desired book, especially on any subject treated of in the *Agriculturist*. As a general thing we can send any book by mail *post-paid* on receipt of the regular retail price—the discount allowed us by publishers being just about enough to cover the cost of mailing.]

A Farmer's Library.

A number of persons, each enquire for a list of good books, such as would make up a fair library for a farmer. We will name off-hand, a few of those which we consider among the best, giving the publisher's price for each. We could add considerably to the list, though in this department of literature, as in every other, not a fourth of the works published are worth binding: American Farm Book, by R. L. Allen, \$1; Nash's Progressive Farmer, 60 cents; Norton's Scientific and Practical Agriculture, 60 cents; Munn's Land Drainer, 50 cents; The Stable Book, \$1; Allen on Diseases of Domestic Animals, 75 cts; Dadd's Cattle and Dadd's Horse Doctor, each \$1; Beament's New Poultry Book, \$1 25; Quinby's Mysteries of Bee Keeping Explained, \$1; Langstroth's Hive and Honey Bee, new Edition, \$1 50; Allen's Rural Architecture, \$1 25; Buist's Family Kitchen Gardener, 75 cts.; Breck's Flower Garden, \$1; Chorlton's Grape Grower's Guide, 60 cents; Pardee's Strawberry Manual, 60 cents; Eastwood's Cranberry Manual, 50 cents.

ON FRUITS.—Downing's Fruits and Fruit Trees of America, \$1 50; Barry's Fruit Garden \$1 25; Cole's American Fruit Book, 50 cents; Elliott's Fruit Growers Guide, \$1 25.

The above can be had of most Booksellers, at the prices named. We can procure and send any one or all of them when desired, as noted above.

OUR BASKET

Into which are thrown all sorts of paragraphs—such as NOTES and REPLIES to CORRESPONDENTS, with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources. The printers always have access to this Basket when they "have nothing else to do."

A large amount of prepared "Basket matter" has accumulated, and scores of letters are still waiting consideration. If our correspondence continues to increase at the recent ratio, we shall have to both enlarge the paper and employ additional help in this department. The enlargement will be made by November, or before.

Housekeeping in the Country.—Emily's excellent letter is in type for next No.

Sewing Machines.—J. F.'s article in type waiting room.

Drainage.—The queries of Albert Mackey and others will be answered in the series of articles on this topic. The chapter designed for this number has been necessarily omitted for want of time to prepare it.

Brain Tiles in Sand.—J. C. Reily, of Monroe Co., N. Y., says stone drains choke up in sand, and asks if drain tile will be affected in the same way. We answer no, if the tiles are laid with close fitting joints. The water passes through the porous tiles which answer as a strainer to keep the sand out of the water channel.

Bee-Keeping in Winter.—J. M. Maine, of Schuyler Co. We have marked your communication for the October number when it will be in season.

Sugar Cane Suckers.—A "New Subscriber" at Berlin, Ind., says many of the stalks of the sorgho have seven suckers each, and enquires if he shall pull them out. We should say cut them up and feed them if there is a sufficiency of manure stalks. When planted in hills, however, on good soil, as many as five or six stalks may be left to grow together. It is desirable that all the stalks should mature at the same time. If designed for pressing, and the weaker, backward shoots may quite as well be out of the way at once. Cut and not pull them, to avoid injuring the stalks remaining.

Corn-Topping.—D. Elisworth, Harwinton. We do not believe in "topping" corn before ripe. The upper stalks and leaves are quite as essential as the roots to elaborate the sap, and they should be left on until the whole stalk, with the ear, is cut, just before full hardening of the kernel. Hilling corn we cannot discuss here. Hill and flat culture are both good sometimes, depending entirely upon the particular soils under treatment.

Blacksmith Shop Sweepings.—Muck.—W. Winchester, Alleghany Co., N. Y. These are valuable, especially the hoof parings and horse droppings, but should not be mixed with ashes or lime unless just before putting them into the soil. They may well be thrown into a manure heap. Two of our associate editors have used a few loads of Smith's sweepings on their gardens the past two years, adding nothing with them, and the result has been highly satisfactory. "Raw muck," as a direct manure, is not equal to good stable manure, though excellent to loosen the soil when that is needed. Get out all the muck possible during dry weather to mix with the cattle droppings during winter.

Wire Worm.—The best advice we can give J. Fraizer, of Wilmington, is that given us when a boy learning to hoe corn, viz: make two worms of every one we found. Salt, lime and ashes, are offensive to these worms, and when mixed with manure are good preventives. Corn is frequently injured by them, and we advise soaking the seed in copperas water, and rolling it in lime when planting on land infested by the wire worm, which attacks the kernel.

Peabody's Strawberry.—D. C., Richmond, Ohio. We have a few plants growing and "running" well. We raise nothing of the kind to sell—may, perhaps, distribute a few plants next Spring to localities where we have a large number of readers. We have not fruited this plant yet, and therefore cannot tell how it will do in this latitude.

Leaky Roofs.—A correspondent says: Four pounds rosin, one pint of linseed oil thoroughly mixed and applied with a brush, while hot, will effectually stop leaks by the side of chimneys, skylights or where an L or wing is joined to the main body of the house.

Grape Grafting.—A friend informs us that having some scions of a choice grape sent him, he tried them in various ways upon a barren vine growing in his yard. The cleft grafting, usually recommended for the grape, was an entire failure, and the only one which united was inserted in a gimlet hole of the size of a wooden pencil bored into an exposed portion of the root. The scion was rounded to a point and pressed firmly into the hole and the earth replaced about it.

Cooking.—Dolly's letter (Ill.) is received, and is marked for a chapter at first opportunity.

Pickling—Vinegar.—"Subscriber" Lawrence, Kansas Territory. We are not certain as to the "chemical" colorless fluid in pickle jars. We have found in these apparently only vinegar, and have always understood that the vinegar used is made from grapes, or the lees of wine. A little alum and salt are sometimes added to give a bright green color to the pickles, say two-thirds of a tea-spoonful of salt and a table-spoonful of alum to a gallon, boiled in the vinegar. About the only pickles we really relish are made of young black walnuts, or hutternuts. These are gathered when a pin can be thrust through them, and either washed by stirring thoroughly in ley, or scalded in water and rubbed with a cloth, to remove the roughness. Next soak in salt brine a week or so, and pierce them through with an awl or needle, and put them in close jars, covering with scalding vinegar. Some add to the boiling vinegar, cloves, cinnamon, pepper and ginger, and also mustard seed. Cucumbers, small and fresh gathered—cut, not pulled—may be kept a long time in salt brine. Before using, soak in fresh water and put them into warm vinegar, which will thoroughly penetrate them in a few days. Cucumbers, green tomatoes, peppers half grown, nasturtiums, peaches, pears, cherries, onions, cabbage, green beans, radish pods, &c., are all pickled by putting them directly into vinegar. Many persons boil cloves, nutmegs, ginger, pepper, cinnamon, onions, &c., for three or four minutes with the vinegar before using, any or all of these to suit the individual fancy or taste. A little alum boiled with them gives the green color. Peaches are often kept in brandy. Common whisky may be substituted for vinegar for most kinds of pickles, especially cucumbers. *Vinegar*, in the absence of cider, may be made in various ways. Ten gallons of clean soft water, one gallon of molasses, a gallon of whisky and a pint of fresh yeast, put into a cask with a sheet or two of white paper, will produce a good vinegar in five or six weeks, if standing in the sun or a warm room. The bung must be kept open to admit air, covering it with wires or millinet to keep out insects. Ten gallons of water and twenty pounds of brown sugar, put into a cask with a little yeast, and left in the sun or a warm room, will produce a good vinegar in three to six months. Sweetened water, sweetened tea, or any sweet liquid added to a vinegar cask from time to time, will keep up the supply. *Beet Vinegar* is made by washing sugar beets, grating them fine, pressing out the juice—a cheese press will do for this. Put the juice in a barrel and cover the bung with gauze, and let it stand in the sun 15 or 20 days. We believe a bushel will produce about 6 gallons of excellent vinegar.

Tomatoes, Preserving and Drying.—Sea Island (Geo.) Subscriber's letter came too late for last month's "Basket." See directions for preserving tomatoes on page 185. They may be dried, by cooking as if for the table, *without seasoning*, then spread on plates and dried in thin sheets in the sun, finishing off in the oven if necessary. Thus prepared they may be kept a long time. Moistened and cooked slightly, with seasoning, they will be almost "as good as new"—not quite. *Fine Tomato Figs*, are prepared thus: Remove the skin by dipping in hot water, put them in an earthen jar with equal weight of sugar; after two days pour off liquid and boil and skim it till clear, then pour it over the tomatoes; two days after boil and skim as before; in two days repeat this the third time, and in two days more take out and dry the tomatoes for a week or so on large earthen plates, and pack away in small wooden boxes, with fine white sugar between the layers. They will keep for years, and we know they are good. Apples cut up, and boiled in the syrup left, makes a nice sauce.

Currant Wine.—O. W., (whose letter we have not room to print entire,) sends us the following two recipes for Currant Wine, taken from the private Cook Book of his mother, commenced in 1792. Her currant wine and preserves were noted for their superiority. He thinks the first recipe was most used. Good sugar was considered an important matter. A brother now has excellent currant wine made the year he was born, (1806,) as well preserved as any "South Side" ever brought from Madeira. *1st Recipe.*—Strain the currants through a cloth, and to each quart of juice add 3 quarts of water and 4 pounds of sugar, (1 quart of water to each gallon of liquor.) The third day after filling up the cask, make up any shrinkage by adding some of the liquor reserved for that purpose; bung it up tight and leave it undisturbed a *twelve months*; then bottle. *2d Recipe.*—To a gallon of currants (the fruit, not the juice) add one gallon of water; bruise them well; strain through a cloth, and add to each gallon of the liquor 2½ pounds of good brown sugar. Put into a cask, as above; let it stand six months; then bottle.

Wisconsin Lands.—Joseph Clowes, of Star Prairie, St. Croix Co., Wis., writes us, quite at length, in glowing terms of the country thereabouts. Many others, at various points in the West, write similarly of their several localities—indeed, so numerous are such letters, that should we publish them, our paper would need to be

doubled, and nothing else inserted in it. These letters are interesting to us personally, as they help us to a knowledge of the "Great West," which we are daily studying, and they would interest many other individuals, but not, perhaps, the great mass of our hundred thousand readers. Mr. Clowes states one fact which we have before impressed upon those seeking new homes, viz.: that there are thousands of chances to buy just as good land east of the Mississippi as west of it, and at lower prices. We have the present season seen hundreds of thousands of acres of good lands in Illinois and Wisconsin, that can be bought for \$10 to \$20 per acre, and almost the same may be said of States still further east.

Corn Suckers.—J. B. Reeve, Shelby Co., Ill., and several others. The King Phillip variety requires no different treatment from others. We think it usually advisable to remove suckers. They seldom yield corn, and if taken off while young they leave more room, more air, more sunlight, and more roots for the bearing stalks. If there is a thin stand in the hills, the suckers may be left to grow for fodder. Other questions of J. B. R. have been answered in part, and the others will receive attention in their season.

Chinese Sugar Cane Cutting.—To inquiries as to time of cutting for grinding we can give no definite answer, based on experience, as everything connected with this plant is still new. From the examination of our own canes last year, and what we can gather from others, the best stage for cutting will probably be just as soon as the seed is sufficiently mature to be gathered, but not fully ripe. For cattle feed it may be cut at almost any stage of growth previous to the hardening of the canes. If cut now, it is said to sprout for a second growth. This needs trying at the far North.

Stunted Unthrifty Pear Trees.—Wm. Day, of Morristown, N. J., writes more fully upon these than we now have room for. He considers that one great cause of the unthriftness of the pear lies in the fact that many of them are worked (budded) upon sucker stocks. He tried the experiment by planting out 1,000 of these suckers, obtained from old trees, and after nursing them for several years, during which he budded some and grafted others, giving all careful culture in good ground, he was compelled to discard the whole of them. A neighbor of his held on to some for ten years, but failed to get *four good trees* out of 100 planted. We fully indorse his (Mr. Day's) closing remarks, viz.: "Good thrifty stocks and clean culture will alone produce vigorous and thrifty trees, and no respectable nurseryman will use any others."

Almonds—Apricots.—J. M., of Onondaga Co., N. Y., will find the soft-shelled sweet almond too tender to succeed well for out-door culture, in his latitude, or indeed anywhere north of Philadelphia. Only the bitter, hard-shelled varieties, are hardy, and these are of little value except as stocks for working the apricot upon. The apricot, itself, was badly killed around New-York City the past two Winters.

Wild Onions.—"A Subscriber," at Green Hill, Tenn., asks how to rid his farm from these. Proper tillage under the plow and hoe should effectually clear them from each field, as it is cultivated in rotation, if no foul grass seed is used in laying down. To free grazing lands without plowing, turn *sheep* upon them early in the season. Sheep are fond of the tops and by pasturing for a day or two as often as they attain a few inches in height the garlic or wild onion will disappear in one or two seasons. If any one knows a better way we shall be glad to make it public.

Budding—Getting New Varieties.—D. C. of Maryland, asks whether he shall bud in the branches, or near the ground. If the trees are less than one inch in diameter at the base, we advise budding near the bottom; if the tree is larger than this, bud in the limbs, or graft next Spring.

"Michigander," having an orchard of young ungrafted trees, proposes to bud a portion of the limbs of each tree, and allow one branch to go unchanged, in order to produce new varieties of value, or, at least, test the qualities previous to changing the whole. This will be a tedious process. If the trees were produced from seed, the probability is that ninety-nine in a hundred may be improved by new scions. Nurserymen often take scions from twenty to forty seedlings, and graft them into as many limbs of one large tree, carefully marking each. In the course of two years, most of them will bear, when any choice varieties can be selected, and the original tree then be used to take scions from.

Egypt, Ill.—"Young Egyptian's" letter is received. We have recently been to your Capital, "Cairo," and all along northward, and may have something to say about it. In the meantime, please tell us about the practical operations, or modes of culture, pursued in your vicinity, briefly and to the point, as many ideas in as few words as possible. Please write on but one side of the paper.

Kohl Rabi.—J. C., West Brattleboro, Vt. See page 140 of this volume, (June No.)

Grapes—Lupin polyphylla.—C. Hoffman, Jr. of Dauphin Co., Pa., will find his grape queries answered at page 158, (last number.) The "Lupin polyphylla" is a flowery plant; an annual. Judging from the specimen we are growing from Patent Office seed, it is not specially interesting.

Rape.—E. Meldahl, of Parkersburg, Va., writes that he has raised rape after a wheat crop; it was eaten off three times by cattle; started early in the Spring, and a volunteer crop of wheat came up among it, both doing well; the rape was somewhat injured by insects, seed not so large and plump as the imported. There being no oil mill near, he dropped the cultivation. The haying items in his letter are too late to be of use this season.

White Rye.—A. Gray, of Pendleton Co., Ky. We have heard of the "White Rye" to which you refer, but have as yet been unable to obtain anything definite respecting it. Can any one give any information on this topic? Thanks for your kind words of approval.

DIRECTIONS FOR SUGAR MAKING.

PHILADELPHIA, July 16, 1857.

Editor of the American Agriculturist:

DEAR SIR: A reply to your inquiries in relation to the requisite instruction for arranging mills, boilers, tanks, filters, coolers, &c., &c., and then also, the "modus operandi," after all are ready, will be rather difficult to give in a manner satisfactory, even to ourselves, with the light before us. We have spared no pains or time in collecting information to enable us as far as possible to give to others engaged in the pioneering of this new Sugar Cane movement. We shall do the best we can, however, and urge those engaged in it to be thorough in experimenting, try all the modes and means known, and be sure to keep some careful record for future use. In the course of two weeks we expect to be in possession of the results of a test in Florida near Orange Springs, which shall be made public *whatever it is*. Mismanagement has deprived us of the use of the cane we had planted in the hot house for early test. The first that will be worked besides that in Florida, will be at Gov. Hammond's about the 10th or 15th of August. Col. Peters tells us that his 70 acres of "Sorgho," is now about six feet high and will be ready from 1st to 15th September; he has some earlier planted that he will work about the 20th of August. On this he uses a two horse mill just being shipped by us, and a steam power mill for his large crop. He only designs making syrup or molasses except, perhaps a small experiment with sugar.

The cane must be allowed to mature fully, not attempting to work it until the seed is fully out of the milk, and as some of the tillers will be rather later than others it will no doubt be better to throw them out for fodder than jeopardize the rest. The leaves should be stripped off before cutting and the top cut off with the seed some two-and-a-half or three feet down, as there is not much saccharine juice in the upper end. Then if your apparatus is ready, cut, and grind as fast as you cut, and boil as fast as you grind, since the less time the stalks or cut cane is exposed the better. The juice, if concentrated by the usual process will pass through two sieves—first No. 8 and then No 16 set over a large tin funnel immediately under the mill (which will be set about three feet from the ground upon three posts firmly bedded in the ground about three feet.) This funnel is contracted to a pipe of two inches diameter and running under ground past the horses track, and entering a tank either lined with tin or painted thoroughly, and varnished so as to be impervious to the juice and easily washed clean, when left idle for even one hour. The juice is raised by tin buckets or tin or copper pump from this to a clarifier. This may be of sheet iron No. 8, and about 12 inches deep and large enough to fill your first kettle, and set higher with draw off pipe and stop-cock entering at the bottom. This clarifier is set so that the heat is applied under it after leaving the range of boilers and may be shut off by damper into another side flue, while you discharge this pan. The heat being applied slowly, a thick scum rises and when near boiling you change dampers and draw off until the juice begins to show sediment or scum, then clean the pan and fill again, and so on. Now in this first kettle you add lime well slacked and sifted, until your juice will not change the color of litmus paper (which can be got at any good drug store quite cheaply.) While the juice is acid it will change it to a reddish hue, and if thus boiled will neither granulate nor keep sweet as molasses. With our two horse mill of rollers 17 inches long, we use three boilers holding 60, 40 and 20 gallons, with the latter immediately over the fire and set with flaring walls or jambs, rising above each about 6, 8 and 10 inches, and completely cemented with water-lime. The last or 20 gallon boiler should be higher than the 40 and that above the 60, so that the scum will run through the gap into the next kettle behind successively. The scum should also be thrown back whenever accumulated into the hindmost kettle. If you have no experience in testing the syrup in

the "battery," a thermometer made for that purpose, can be obtained in most large cities for a dollar or so. It requires to be graduated up to say 250°, as about 240° Fahrenheit is considered the proper point. Should the heat rise above this, you must open your fire doors and throw over the fire, an armfull of begasse from the mill, and then discharge the syrup as quickly as possible and refill from the next kettle, thus continuing successively.

The coolers into which you discharge may be of good clear white pine without paint inside, and 12 inches deep, and large enough to hold 4 charges, and then left to cool and granulate, or if you make molasses only, you will use barrels, staves of oak and heads of pine or cypress thoroughly made.

In regard to crystalizing the sorgho sugar, we, to-day, went with Col. Peters, to the sugar refinery of Messrs. Eastwick & Brothers, No. 73 Vine-st. of this city, carrying with us some sugar made from the sorgho, by Col. Peters in Georgia, and by Mr. Wray in France. These specimens were subjected to the severest chemical test, and examined under a powerful microscope, and both proved to be true crystalizable sugar and not glucose. As the examiners are perhaps not surpassed for accuracy on this country—not even in Boston—we deem these experiments highly satisfactory. They promise a public report of the examination soon.

Yours &c.

HEDGES, FREE & Co.

What Seeds do you Want?—A Question to all Subscribers.

We have determined to offer to all subscribers on our books next February, a selection of at least three kinds of seed, and if the system works well, as we think it will, we shall doubtless continue the plan from year to year. As heretofore stated, our distribution the present year amounted to full one hundred thousand packages, but the plan was originated late in the season—too late to admit that regularity and uniformity which would be desirable, and we are now trying to "take time by the forelock," and get ready before hand. We have a large variety of seeds now growing, and have a regular experienced seedsmen permanently employed to attend exclusively to this department. How many of our home-grown seeds will mature well, and how many will prove worthy of distribution we cannot yet tell. In December or January, (or as early as possible,) we shall announce a list of seeds on hand to be selected from, but that list will necessarily be limited to fifteen or twenty kinds more or less, and it will then, perhaps, be too late to secure other rare or choice varieties wanted. Dealers in seeds are already engaging their stock for the Winter and Spring sales. We have no intention to come in competition with the regular trade. Our plan is simply to collect and disseminate among our readers, (two or three varieties to each,) such choice and reliable seeds as may not find their way into the general market. This, from our location, and by a wholesale operation, we can do cheaper and to better advantage than it can be done in any other way. Thus, we may collect and send out to a hundred distant subscribers, at the expense of one or two dollars, what might cost them ten or twenty dollars, even if they could get them on any terms. But while we aim at getting new and rare seeds, we are convinced by the experience of the present year that there are thousands of subscribers who will prefer to receive packages of more common garden and flower seeds, in preference to the new or rare. For example, we have had hundreds of applications for Salsify, Lettuce, Carrots, Onions, Beets, Cauliflower, Cabbage, Turnips, Sage, Mignonette, Cypress vine, Clarkia, Double Balsam, Nemophilla, Virginia Stock, Sweet Peas, Lupines, and a multitude of others. To meet such calls we shall offer in our free list a variety of good common seeds.

What we ask now is, that any and every subscriber having occasion to write to us on business or other matters, would name where practicable some two or three kinds of seeds they would like to receive at the time of the next Annual Distribution. All such applications will be noted down by our Seed Clerk.

By having timely notice of this kind we shall be able to make early provision to secure a stock. Doubtless many seeds will be called for which can only be procured across the Atlantic, but we shall endeavor to obtain everything of the kind desired if called for in due season. As we do everything of this kind without charge, it is necessary that we be able to condense the labor and expense as much as possible, by sending abroad for seeds early and but few times. We repeat, then, let every subscriber desiring any particular kind of field, garden, or flower seeds, notify us of the fact as soon as he or she can do so without any additional trouble or expense for writing or postage. We trust no one will write to us to sell them a quantity of this or that kind of seed. We shall have none to sell. Our whole seed business is confined exclusively to offering premiums to all subscribers. We have nothing but Agriculturists to sell.

STATE AGRICULTURAL EXHIBITIONS 1857.

[The following list of 171 Exhibitions, derived mainly from our own correspondents, has been compiled with great care and will be found nearly if not quite correct.]

Name.	Where Held.	Date.
United States.....	Louisville, Ky.....	Sept. 1—5
Kentucky Ag. and Mec.	Lexington.....	" 8—12
American Institute.....	New-York.....	" 12
Ohio.....	Cincinnati.....	" 15—18
Western Virginia.....	Wheeling Island.....	" 16—18
Canada East.....	Montreal.....	" 16—18
Illinois.....	Peoria.....	" 21—25
Western Pennsylvania.....	Pittsburg.....	" 22—25
Western Pennsylvania.....	Pittsburg.....	" 22—25
N-W. Western Fruit-Grower's Ass'n, Alton, Ill.	".....	" 29
Maine.....	Bangor.....	" 29 Oct. 2
Pennsylvania.....	".....	" 29 " 2
Michigan.....	Detroit.....	" 29 " 3
Wisconsin.....	Janesville.....	" 29 " 2
California.....	Stockton.....	" 29 " 2
Canada West.....	Brantford.....	" 29 " 2
New-Jersey.....	New-Brunswick.....	" 29 " 2
Vermont.....	Montpelier.....	" 30 " 2
Indiana.....	Indianapolis.....	Oct. 4—10
New-York.....	Buffalo.....	" 6—9
Iowa.....	Muscatine.....	" 6—9
New-Hampshire.....	Concord.....	" 7—9
Tennessee.....	Nashville.....	" 12—16
Kentucky.....	Henderson.....	" 13—17
Connecticut.....	Bridgeport.....	" 13—16
East Tennessee.....	Knoxville.....	" 20—23
North Carolina.....	Raleigh.....	" 20—23
Massachusetts.....	Boston.....	" 20—24
Maryland.....	Baltimore.....	" 21—25
Alabama.....	Montgomery.....	" 27—30
West Tennessee.....	Jackson.....	" 27—30
Virginia.....	".....	" 28—31
South Carolina.....	Columbia.....	Nov. 10—12

COUNTY EXHIBITIONS.

MAINE.

South Kennebec.....	Gardiner.....	Sept. 23—25
Somerset.....	Skowhegan.....	" 23—25
North Kennebec.....	Waterville.....	" 15—17
Franklin.....	Farmington Centre.....	Oct. 1—2
North Franklin.....	Strong.....	" 6—7
Oxford.....	South Paris.....	" 6—8
Androscoggin.....	Lewiston.....	" 6—8
West Somerset.....	Madison Bridge.....	" 7—8
Piscataquis.....	Dover.....	" 7—8
North Androscoggin.....	Fort Fairfield.....	" 7—8
North Somerset.....	Bingham.....	" 13—14
Kennebec.....	Readfield.....	" 13—15
Lincoln.....	Waldoboro.....	" 13—15
East Somerset.....	Hartland.....	" 14—15
West Oxford.....	Fryeburg.....	" 21—23

NEW-HAMPSHIRE.

Sullivan.....	Charleston.....	Sept. 23—24
Hillsborough.....	Milford.....	" 30
Rockingham.....	Exeter.....	Oct. 1—2

VERMONT.

Champlain.....	Vergennes.....	Sept. 17—18
Franklin.....	St. Albans.....	" 23—24
Orange.....	Chelsea.....	" 23—24

MASSACHUSETTS.

Hampden.....	Springfield.....	" 30—" 1
Essex.....	Newburyport.....	Sept. 28—Oct. 3

CONNECTICUT.

Windham.....	Brooklyn.....	Sept. 16—17
New London.....	Norwich.....	" 30 Oct. 2

NEW-YORK.

Young Men's Nat. Ag. & Mech. So. Elmira.....	Sept. 1—5	
St. Lawrence International.....	Ogdensburg.....	" 9—11
Essex.....	Elizabethtown.....	" 10—11
Rensselaer.....	".....	" 15—17
Saratoga.....	Mechanicsville.....	" 15—17
Albany.....	Albany.....	" 15—17
Cortland.....	Homer.....	" 15—17
Jefferson.....	Watertown.....	" 16—17
St. Lawrence.....	Canton.....	" 16—18
Wayne.....	Lyons.....	" 16—18
Monroe.....	Rochester.....	" 21—23
Chenango.....	".....	" 22—24
Franklin.....	Malone.....	" 23—25
Queens.....	Jamaica.....	" 24
Livingston.....	Geneseo.....	" 24—25
Westchester.....	Sing Sing.....	" 29 Oct. 1
Ontario.....	".....	" 29 " 1
Delaware.....	So. Kortright.....	" 30 " 2
Orleans.....	Albion.....	Oct. 1—2
Palmyra Union.....	Palmyra.....	" 14—16

NEW JERSEY.

Sussex.....	".....	Oct. 6—8
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PENNSYLVANIA.

Delaware.....	Chester.....	Sept. 17—19
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MARYLAND.

Washington.....	Hagerstown.....	Oct. 13—16
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VIRGINIA.

Valley.....	Winchester.....	Oct. 13—16
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KENTUCKY.

Clarke.....	Winchester.....	Aug. 19—21
Harrison.....	Cynthiana.....	" 25—28
Kentucky Central.....	Danville.....	Sept. 11—
Bourbon.....	Pars.....	" 22—25
Campbell.....	Alexandria.....	" 22—26
Logan.....	Russellville.....	Oct. 6—8

OHIO.

Fayette.....	Washington.....	Sept. 8—10
Hamilton.....	Carthage.....	" 8—11
Warren.....	Lebanon.....	" 9—11
Geauga (free).....	Clandon.....	" 16—8
Richland.....	Mansfield.....	" 22—23

Trumbull.....	Warren.....	" 22—24
Clinton.....	Wilmington.....	" 23—25
Miami.....	Troy.....	" 23—25
Hardin.....	Kenton.....	" 24—25
Darke.....	Greenville.....	" 23—25
Stark.....	Canton.....	" 22—25
Madison.....	London.....	" 28—29
Columbiana.....	New-Lisbon.....	" 28—30
Lake.....	Painesville.....	" 28—30
Portage.....	Ravenna.....	" 28—30
Morgan.....	McConnellsville.....	" 29 Oct. 1
Knox.....	Mt. Vernon.....	" 29 " 1
Cuyahoga.....	Cleveland.....	" 29 " 1
Adams.....	West Union.....	" 29 " 2
Logan.....	Bellefontaine.....	" 29 " 2
Clermont.....	Olive Branch.....	" 29 " 2
Brown.....	Georgetown.....	" 29 " 2
Gallia.....	Gallipolis.....	" 30 " 2
Medina.....	Medina.....	" 30 " 1
Erie.....	Huron.....	" 30 " 2
Greene.....	Xenia.....	" 30 " 2
Pickaway.....	Circleville.....	" 30 " 2
Preble.....	Eaton.....	" 30 " 2
Ashtabula.....	Jefferson.....	" 30 " 1
Adams.....	West Union.....	" 29 " 2
Muskingum.....	Zanesville.....	" 30 " 2
Belmont.....	St. Clairsville.....	" 30 " 2
Tuscarawas.....	Canal Dover.....	" 30 " 2
Union.....	Marysville.....	Oct. 1—2
Putnam.....	Kalida.....	" 1—2
Defiance.....	Farmers Centre.....	" 1—2
Geauga.....	Burton.....	" 1—3
Wayne.....	Wooster.....	" 1—3
Wyandot.....	Upper Sandusky.....	" 1—3
Morrow.....	Mt. Gilead.....	" 1—3
Williams.....	Bryan.....	" 6—8
Ottawa.....	Port Clinton.....	" 6—8
Lorain.....	Elyria.....	" 6—8
Harrison.....	Cadiz.....	" 6—9
Summit.....	Akron.....	" 7—9
Seneca.....	Tiffin.....	" 7—9
Ross.....	Chillicothe.....	" 7—9
Wood.....	Bowling Green.....	" 7—8
Delaware.....	Delaware.....	" 7—9
Licking.....	Newark.....	" 7—6
Butler.....	Hamilton.....	" 7—9
Washington.....	Marietta.....	" 7—9
Clark.....	Springsfield.....	" 7—9
Guernsey.....	Cambridge.....	" 8—9
Champaign.....	Urbana.....	" 13—16
Jefferson.....	Steubenville.....	" 14—16
Fairfield.....	Lancaster.....	" 15—17

MICHIGAN.

Ionia.....	Lyons.....	Sept. 23—25
Ottawa.....	Eastmanville.....	" 22—24
Jackson.....	Jackson.....	Oct. 7—9
Hillsdale.....	Jonesville.....	" 13—14

INDIANA.

Henry.....	New-Castle.....	Sept. 23—25
Howard.....	Kokoma.....	" 25—28
Dearborn.....	Aurora.....	" 29 Oct. 2

ILLINOIS.

Morgan.....	Jacksonville.....	Sept. 8—11
Tazewell.....	Tremont.....	" 17—18
Carroll.....	Mt. Carroll.....	" 22—24
Washington.....	Nashville.....	" 30 Oct. 1
Edgar.....	Paris.....	Oct. 1—2
Champaign.....	Urbana.....	" 6—
Randolph.....	Sparta.....	" 7—8
Winnebago.....	Rockford.....	" 13—15
Pike.....	Pittsfield.....	" 14—15
Sangamon.....	Springfield.....	" 15—18

IOWA.

Lee.....	Westpoint.....	Sept. 23—25
Mahaska.....	Oskaloosa.....	" 29—30
Jefferson.....	Fairfield.....	" 30 Oct. 1
Monro.....	Albia.....	" 30 " 1

MISSOURI.

North East.....	Paris.....	Sept. 15—18
Lafayette.....	Union.....	Oct. 6—8
Franklin.....	Union.....	" 8—10
Marion.....	Palmyra.....	" 14—17
Clay.....	Liberty.....	" 14—17

What is the Postage on this Paper ?

We say 1½ cents per quarter, or 6 cents a year and in proof, on the last page of the January number (bottom of middle column) we published the decision of the Post Office Department at Washington. But still we have complaint after complaint from subscribers that some Post Masters, who are "wise above what is written," still continue to charge 12 to 25 cents a year. We now request every subscriber charged over 6 cents a year if paying postage in advance, to send us the particulars and we will at once refer each case to the Post Master General. This applies to every part of the United States and Territories. All papers going beyond the United States boundaries are regularly pre-paid by us at the N. Y. Post Office.

Does Farming Pay ?

We have for a long time had a "hankering" after one of those "Baronial farms," out West, say in Illinois, but every now and then an item comes up hereabouts, that puts a different look upon things. Here is one: A friend residing 20 miles from the city on a Railroad delivers to a single Hotel in this city, 400 quarts of milk daily for which he receives 5½ cents per quart the year round. This is but one instance, there are plenty more. If such business does not pay, we should like to hear of a better.

Pennsylvania Matters.

THE FARM JOURNAL & PROGRESSIVE FARMER.

This Agricultural Journal, published for several years at Philadelphia, has been discontinued, and its place will be supplied by the *American Agriculturist*, which will be furnished to all subscribers to the Farm Journal during the whole time they have paid for that paper. The full particulars have been sent out to each of those subscribers in a Circular from the Publishers, Messrs. Emlen & Co.

We welcome you into our *Agriculturist Family*, already very large. Please consider yourselves perfectly at home. We trust you will find this journal not only satisfactory in the present time, but worthy of the future patronage of yourselves, your friends and neighbors. We shall endeavor to merit it at least.

We respectfully request those who have formerly contributed to the Farm Journal, both as editors and correspondents, to extend their favors to the *Agriculturist*. We are always glad to receive any practical suggestions on Agricultural and Horticultural topics which will be useful to others.

[The present number is hardly a fair specimen of the usual issues of the *Agriculturist*, as most of the contributing Editors have been too busy in gathering their crops, to use the pen, and the publishing Editor has been absent during several weeks on a tour of observation through the country, so that the paper has been hastily thrown together from such materials as were chiefly on hand. This number is also issued a few days later than usual.]

Pennsylvania Farm School.

HARRISBURG, Pa., 3d July, 1857.

At a meeting of the Board of Trustees of the Farmer's High School of Pennsylvania, the following proceedings were had:

Whereas, Valuable contributions of seeds, plants, trees, scions, books, implements, &c., have been made, not only by our own citizens, but by citizens of other States, to the Farmer's High School of Pennsylvania, which have materially advanced our efforts to improve and equip the Nursery, the Garden, the Farm and the Library; and as we desire to perpetuate the remembrance of the benefits received, and hope at some future day to be able to reciprocate the favors thus conferred:

Resolved, That the Trustees of the Farmer's High School of Pennsylvania, hereby direct Wm. G. Waring, Esq., to record in a book to be provided and set apart for that purpose, all donations to the Institution, with the date thereof, and the names and places of residence of the donors; and that the receipt thereof be acknowledged by him, with the thanks of the Board of Trustees: and that a notice of such donation be published in the Pennsylvania Farm Journal, and a copy thereof be sent to each donor.

I do certify that the above, and foregoing, is truly copied from the minutes of the Board of Trustees, this fifth day of July, 1857. JAMES IRVIN, Secretary.

Editor of the Farm Journal, (now American Agriculturist):

I am directed by a resolution, passed at a meeting of the Board of Trustees of the Farmer's High School of Pennsylvania, July 3d, 1857, to send you for publication in your journal a list of the contributions of seeds, plants, books, implements, specimens, &c., which have been made to the Institution, and to send a copy of such notice to each donor.

I am also instructed to record all such donations in a book to be set apart for that purpose. For want of such a record of contributions already received, I fear that the following list is very partial and imperfect.

There have been presented to the School, and received here, (the items being entered in the record) from

Thos. Meehan, Germantown, Pa.—1 bale of trees, of 14 different rare kinds for the arboretum.

Frederick Pfeiffer, Home, Pa.—5 plants of genuine German Turneps, and recipe against curculio.

H. R. Robey, Fredericksburg, Va.—Trees of choice new Southern apples, very long keepers; Kalmia's new chionanthus, &c.

Dr. C. W. Grant, Newburg, N. Y.—32 species and varieties of rare willows, a very interesting and useful collection, with offer of 50 more.

—, Newburg, N. Y.—3 trees, and many scions of rare fruits; 19 plants rare evergreens, (5 species); 36 plants rare shrubs, (17 species); 42 species and varieties of finest herbaceous flowering plants; 31 papers annual and biennial flower seeds.

(I regret that I have not permission to publish the name of the generous donor of this very valuable contribution from one of the most eminent horticulturists of the country, who thus diffuses the pleasure and advantage he enjoys in cultivating the beautiful productions of nature.)

R. B. Foster, Lewisburg, York Co., Pa.—Seeds of papaw,

persimmon, chinquapin, honey locust; 25 trees of 13 rare varieties of budded peach; 1 do. of Whately heart cherry; 2 do. of seedling plum; 6 do. of papaw.

A. Boyd Hamilton, Harrisburg.—1 sett of Proceedings of Pennsylvania State Agricultural Society.

Theo. H. Cremer, Esq., Huntingdon, Pa.—Seed of Hungarian Spring wheat; do. Turkish flint; 1 panicle Chinese sugar cane, of his own growth.

R. C. Walker, Sec. Pa. Ag. Soc.—1 sett of Proceedings of State Agricultural Society; one do. do. Indiana State Agricultural Society.

W. P. Harris, Nittany, Pa.—Seeds of choice vegetables.

O. T. Noble, Lockhaven, Pa.—1 quart seeds of Nyssa multiflora; 1 quart white beans.

Geo. Thorn, Clearfield Co., Pa.—8 heads Nepal barley; 20 quarts Poland oats; 3 tubers fine Mexican potatoes; seeds of vegetables.

Samuel Miller, Lebanon, Pa.—18 varieties vegetable seeds of rare sorts; 8 varieties strawberry, including 1 seedling of his own growth; 1 Louisa grape, do.; 6 flowering plants.

Thomas P. James, Philadelphia, Sec. Penn. Hort. Soc.—Proceedings of 2nd and 3rd Sessions of American Pomological Society.

William Waring, Kivernoll, Herefordshire, Eng.—Seedling pear stocks, larch, &c.

Josiah Hoopes, Westchester, Pa.—Box of cuttings of Isabel-la grapes.

C. Francis, Springfield, Ill.—Transactions of Illinois State Agricultural Society, and copies of Western Agriculturist.

Ellwanger & Barry, Rochester, N. Y.—24 deciduous shade trees, of choice sorts; 24 large evergreens, of sorts; 24 hardy perpetual roses, 12 sorts. (all remarkably fine.)

J. M. Summy, Manheim, Pa.—Scions of 7 varieties of pear, including 1 seedling.

S. T. Shugart, Washington, D. C.—15 vols. Patent Office Reports; 15 varieties seeds.

J. M. McMinn, Williamsport, Pa.—Scions of Tompkins Co. King apple, from original stock.

Jas. Murdock, jr., Pittsburg, Pa.—8 varieties of Kirtland cherries, on dwarf stocks.

H. N. McAllister, Bellefonte, Pa.—Seed of wheat and corn, proved sorts.

A. G. Hanford, Waukesha, Wis.—2 varieties superior early potatoes; 1 do. late do.; copies of North Western Farmer.

Edward Tatnall, Wilmington, Del.—Scions of 9 varieties of new pears.

R. Waring, Tyrone, Pa.—A collection of fruit tree stocks, hedge plants, seeds, and shrubbery.

Dr. J. K. Eshleman, Downingtown, Pa.—Scions of rare pears; choice of varieties of willows.

Dr. Wm. R. Brinckle, Philadelphia.—Scions of dative apples, grapes, pears, and plants of Brinckle's raspberries. —, Tyrone, Pa.—1 hand corn-planter.

Wm. Canby, Wilmington, Del.—Cuttings of Delaware Burgundy grape, originated by him.

Henry Cabello, Bellefonte, Pa.—1 sod-plow.

H. L. Dieffenbach, Lockhaven, Pa.—A distinct variety of blackberry, and other plants, and valuable papers.

J. B. Garber, Columbia, Pa.—Several papers of rare and curious seeds.

A. Harshbarger, McVeytown, Pa.—Papaw and persimmon trees.

H. A. Dyer, Hartford, Conn.—Transactions of the Conn. State Ag. Society, 1855, and copies of 'Homestead,' &c.

M. B. Bateham, Columbus, O.—Ohio Agricultural Reports, 1853 and 1854; Ohio Pomological Transactions; copies of the Ohio Cultivator; scions of pears and of Western apples.

Samuel Emlen, Philadelphia.—Pamphlets relative to Agricultural Education.

Mrs. E. Petriken, Bellefonte.—35 varieties flower seeds.

Harbeson & Bros., Shenango, Lawrence Co.—Scions of new native apples.

Jas. A. Nelson, Mercer, Pa.—Scions of New-England apples and native peaches.

Chas. L. Flint, Sec. Board of Agriculture, Boston, Mass.—Transactions of Massachusetts State Agr. Society.

S. D. Harris, Columbus, O.—Books and Magazines.

O. Tiffany, Chicago, Ill.—Plan of fruit-drier.

Geo. E. Waring, jr., American Institute, New York.—Waring's Elements of Agriculture.

Dr. A. A. Henderson, U. S. N.—500 plants of cedar.

Prof. J. C. Holmes, Agr. College, Lansing, Mich.—Transactions of Michigan State Agr. Society; Agr. College Report and Circular.

Charles Scholl, Meadow Valley, Plumas Co., Cal.—Seeds of manzinate; silver pine and other trees and shrubs from the Sierra Nevada, (mostly growing.)

Geo. Bucher, Alexandria, Pa.—Plants of Concord grape, and new strawberries.

To all these contributors, and to others whose names may be overlooked in the necessary care of conserving their donations amidst a press of duties, the thanks of the Board of Trustees are hereby respectfully conveyed in

pursuance of their resolution. It is pleasant to be able to say that all have been safely received, and that all seeds, scions, and plants are growing well, with very rare exceptions.

Many offers of implements, specimens, and machines, and of further contributions to the arboretum, nurseries, and gardens have been received, and thankfully accepted. Specimens of manures and means of culture can be used to double advantage, both in field experiment and for exhibition in the rooms. Curious examples of growth or illustrations of peculiar processes, or samples of any invention or manufacture connected with Agriculture, or specimens in any branch of Natural Science will be gladly received and carefully preserved, the buildings being now sufficiently advanced to admit of their reception and preservation.

For the present, packages by Express should be directed to the Farmer's High School, care of Adams' Express Agent, Lewistown, Pa., or if by way of the West Branch of the Susquehanna—to address by mail, WM. G. WARING, F. H. School, near Boalsburg, Pa.

Very respectfully,
WM. G. WARING.

Yale College Scientific and Agricultural School.

The Academic year will open September 16th. The programme of studies, lectures, laboratory exercises, &c., is greatly enlarged, and the advantages afforded are probably unequaled by any similar institution in this country, perhaps not in Europe. Three of our most profitable years of study were spent at the Yale Agricultural School, subsequent to our regular collegiate course, and the facilities are now better than ever. This department of the college is open to all classes, and is particularly inviting to those desiring to pursue the study of Scientific Agriculture, Practical Chemistry, Engineering, Geology, Mineralogy and other Natural Sciences, without entering upon a collegiate course. Circulars and any particular information desired, may be obtained by addressing Prof. S. W. Johnson, New-Haven, Conn.

Devon Cattle and South Down Sheep for Sale.

Many of our readers will be interested in the sale of these animals, announced in our advertising columns. It is perhaps enough to say of the animals that they have been bred by Lewis F. Allen, of Black Rock, N. Y.

Blackberries.

Just at the moment of going to press, we have a letter from Geo. Seymour & Co., of South Norwalk, Conn., saying their New Rochelle or Lawton Blackberries, are making up for lost time, and will be ripe nearly as early as usual, notwithstanding the late season. We will, at the earliest moment possible, embrace their kind invitation to go and see what they think will be the finest show of this excellent fruit ever made. See in our advertising columns the two cards of invitation to the public, one and all, to go and see and eat Blackberries, this year, without cost. One "mouth waters" already.

Business Notices.

Forty Cents a Line.

WOMAN'S MILLENIUM,

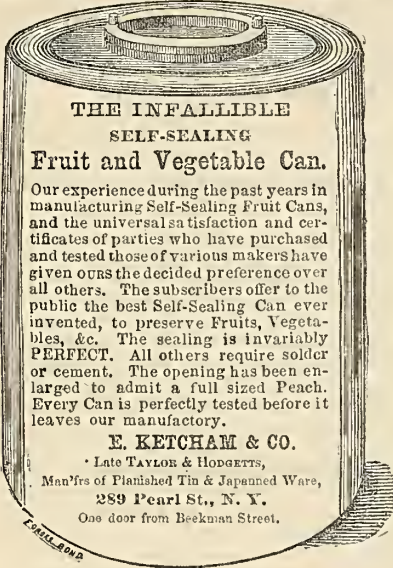
The SEWING MACHINE is one of the facts of this age, destined soon to become one of our household gods, and the commencement of Woman's Millennium can not be far distant. Long ages of toil and suffering seem to have nearly satisfied the "curse," and the fairer portion of creation will soon enter upon their reward. Whatever opinion may exist respecting other Machines, with regard to the GROVER & BAKER MACHINES there is no room for conjecture. The best evidence of superiority is the unequalled patronage enjoyed by these Machines. Thousands of them daily write the record of their own success, in seams of unequalled beauty and strength, in work shops and sitting-rooms, throughout almost every civilized country on the globe. The GROVER & BAKER SEWING MACHINE COMPANY manufacture about twenty different styles of Machines, making both the Grover & Baker and the Shuttle Stitch, and adapted to all varieties of work in cloth and leather, the prices of which vary from \$75 to \$125. Their new FAMILY SEWING MACHINE is believed to be unrivaled for this purpose. The GROVER & BAKER MACHINES are constantly on exhibition at the offices of the GROVER & BAKER SEWING MACHINE COMPANY, where all are invited to call and examine for themselves.

Offices, No. 495 Broadway New-York; No. 18 Summer street Boston; No. 730 Chestnut street Philadelphia; No. 87 4th-street St. Louis.

With a single exception, the actual regular circulation of the *Agriculturist* to subscribers is about **Fifteen Thousand greater** than that of any other Journal in the World devoted to Agriculture and Horticulture only.

Advertisements.

TERMS—(Invariably cash before insertion):
 Twenty-five cents per line (of ten words) for each insertion.
 By the column or half column, \$30 per column for the first insertion and \$25 for each subsequent insertion.
 Business Notices Forty cents a line.
 Advertisements to be sure of insertion must be received at latest by the 20th of the preceding month.



TAYLOR & HODGETTS'
 INFALLIBLE
SELF-SEALING FRUIT CAN,
 WITH BURNETT'S ATTACHMENT.
 Patented August 21, 1855.

It has long been a desideratum to preserve Fruits by some cheap method, such as would keep them fit for domestic use, a number of years. The expense of preserving with sugar is a serious objection. Free access of atmosphere causes the decomposition of vegetable matter. It is obvious that the exclusion of it must prevent this effect from taking place, and that, consequently, if Berries, Fruits, Vegetables, &c. &c. are completely kept from the contact of air, they cannot spoil. To effect this, the only safe and reliable article is

TAYLOR & HODGETTS' SELF-SEALING CAN.

It is so simple in its construction, that any one can close Fifty Cans an hour without the aid of a tinner; it requires neither Solder, Cement nor Wax. The article is very strong, and will last a number of years. The aperture is sufficiently large to admit a full sized peach.
 Apples, Plums, Pears, Cherries, Peaches, Strawberries, Raspberries, Blackberries, Tomatoes, Green Peas, Green Corn, Figs, Asparagus, Rhubarb or Pie Plant, and in fact each and every kind of Fruit and Vegetable, can be preserved for years in their fresh state, in any climate.

SIZES.

Quart, 3-Pint, Half-Gallon and Gallon.

Trade supplied on liberal terms.

Full directions for putting up the various Fruits and Vegetables accompany the cans.

E. KETCHAM & CO.,
 293 Pearl-street, New-York.

Ammoniated Superphosphate of Lime.

The subscribers, who are manufacturers of the ORIGINAL Ammoniated Superphosphate of Lime, and having numerous testimonials from Farmers who have used it for the last five years, we offer it in confidence, feeling assured that it will render satisfaction. For sale in lots to suit purchasers.

ROGERS & BOYER,
 111 (late 29) Market-street, Philadelphia.

Please to Read This.

TO PERSONS OUT OF EMPLOYMENT
 Wanted, persons in every town and village, to circulate new and useful Pictorial Works. Book Agents, Farmers' Sons, everybody with a SMALL CASH CAPITAL, can make money by selling our books. Discount liberal. Catalogues and all letters sent free to applicants. For further particulars, address, post-paid,
ROBERT SEARS Publisher,
 No. 181 William-street, New York.

FIRST-CLASS FAMILY JOURNALS.—
LIFE ILLUSTRATED: A First-Class Pictorial Paper, weekly, \$2 a year; \$1 for half a year. ...**WATER-CURE JOURNAL:** Devoted to the Laws of Life and Health. \$1 a year. ...**PHRENOLOGICAL JOURNAL:** Devoted to the Improvement of Mankind. \$1 a year. The three Journals sent one year for \$3. Address
FWLLER AND WELLS, No. 308 Broadway, N. Y.

WANTED—AGENTS TO SELL
 STEEL PLATE ENGRAVINGS, including the beautifully illustrated engraving of the "LORD'S PRAYER and TEN COMMANDMENTS." An active person, with a small capital, can make \$50 to \$60 per month. For particulars, address
D. H. MULFORD, 107 Broadway, New-York.

THE YOUNG MEN'S MAGAZINE.
 A MONTHLY JOURNAL.
 CONDUCTED BY RICHARD C. MCCORMICK, JR.
 Office 348 Broadway, New-York.

The contributors to the Young Men's Magazine are gentlemen of national reputations. The number of the work before us is of a high order of merit.—*Boston Transcript.*
 It is a handsome periodical, filled with valuable matter, and characterized by a high moral tone and noble aim. We wish it all success.—*New-York Tribune.*
 Each number contains a mass of intelligence touching **YOUNG MEN'S SOCIETIES.**
 Price 15 cents. Annual subscriptions \$1 50. To be had of all dealers.



GENESEE VALLEY NURSERIES.

FRUIT TREES, ORNAMENTAL TREES, SHRUBS, ROSES, &c. &c.

The Proprietors of these well-known Nurseries have on hand a large and well-grown stock of
FRUIT TREES, ORNAMENTAL TREES, SHRUBS, ROSES, GREEN-HOUSE and BEDDING PLANTS, DAHLIAS, PHLOXES and other HARDY BORDER PLANTS.

The assortment of **ROSES** is very extensive, and embraces all varieties which could be obtained, and which are considered worthy of cultivation. Our collection of **HYBRID PERPETUALS** is the most complete in the country.
 The **GREEN-HOUSE DEPARTMENT** receives particular attention, and the stock of Fuchsias, Geraniums, and other Green-House Plants, is large and varied. In the

FRUIT DEPARTMENT,
 our stock consists of

- APPLES,** of the leading varieties, Dwarf and Standard.
 - PEARS,** of all desirable varieties, on Quince and Pear stock.
 - PLUMS**—A choice selection of well-grown trees of popular sorts.
 - CHERRIES**—All the popular sorts, Dwarf and Standard.
 - PEACHES**—A choice assortment.
 - NECTARINES, APRICOTS and QUINCES,** in variety.
 - GRAPES**—A complete assortment of both native and foreign sorts, including many of recent introduction.
 - SMALL FRUITS.**
 - CURRENTS**—Twenty-five choice sorts, including many new varieties.
 - RASPBERRIES, GOOSEBERRIES, BLACKBERRIES, and STRAWBERRIES** of all new and approved varieties.
- We have, for the accommodation of NURSERYMEN, STOCKS and SEEDLINGS, including **APPLE, PEAR, PLUM, CHERRY, QUINCE, &c. &c.** Also, **SEEDLINGS of EVERGREEN TREES,** including Norway Spruce, Balsam Fir, Scotch Pine, Austrian Pine, Larch and Hedge Plants.

ORNAMENTAL DEPARTMENT.

The stock of Ornamental Trees and Shrubs, both Deciduous and Evergreen, will be found all that is desirable among **LAWN and STREET TREES, and SHRUBS, ROSES,** consisting of Hybrid Perpetual and Summer Roses; Moss, Bourbon, Noisette, Tea Bengal or China, and Climbing or Prairie Roses.

HARDY HERBACEOUS or BORDER PLANTS, and BULBOUS FLOWER ROOTS, an extensive assortment.

All the above will be disposed of at low rates, and on advantageous terms. For further details, we refer to our full set of Catalogues, which will be mailed to applicants who enclose a one-cent stamp for each.

- No. 1. Descriptive Catalogue of Fruits, &c.
 - " 2. do do Ornamental Trees, Shrubs, Roses, &c.
 - " 3. do do Green-House and Bedding Plants, Dahlias, &c.
 - No. 4. Wholesale or Trade List for Nurserymen and Dealers.
- Amateurs and others interested in Horticulture are respectfully invited to visit our Show Grounds and Green-Houses at 133 South Sophia-street, a short distance from the central part of the City.
 All communications to be addressed to
A. FROST & Co.,
 Genesee Valley Nurseries,
 Rochester, N. Y.
 August, 1857.

Fruit and Ornamental Trees for Sale.

THE SUBSCRIBER WOULD CALL
 attention the coming season to his large stock of Peach and other fruit trees, embracing Apple, Pear and Cherry, both Dwarf and Standard, of extra and medium sizes. Also Apricots, Almonds, Plums, Quinces, &c., with a large stock of Evergreen and Deciduous trees, suitable for ornamenting grounds, at reasonable prices; and 50,000 two years growth Silver Maple seedlings, and other Nursery stock.
 Catalogues or Trade List, with prices annexed, will be sent to all who enclose a one-cent stamp for each.
ISAAC PULLEN,
 Aug. 1, 1857. Hightstown, Mercer Co., N. J.

FIELD AND GARDEN SEEDS.

A FULL ASSORTMENT OF THE
 choicest Foreign and Domestic Field and Garden Seeds, raised expressly for my trade. Especial care is taken that all seeds are fresh and genuine to the kind. For sale, wholesale and retail.

<i>Chinese Sugar Cane Seed,</i>	50 cents per pound.
<i>Rutabaga, Russia or Swedish Turnip,</i>	50 cents do.
<i>Large White Flat Turnip,</i>	50 cents do.
<i>Long White Tinkard do,</i>	50 cents do.
<i>Yellow Aberdeen do,</i>	75 cents do.
<i>Yellow Stone do,</i>	75 cents do.
<i>Red Top do,</i>	75 cents do.
<i>Carrot Long Orange and White Belgian,</i>	
<i>Beet—White Sugar, Mangold Wurtzel,</i>	
<i>Spring and Winter Vetches, Broom Corn,</i>	
<i>Grass Seeds—Timothy, Red Top, Orchard, Ray, Blue, Sweet scented Vernal, Fowl Meadow, Mixed Lawn,</i>	
<i>Clover—Red, Dutch White, Lucerne, Alsike, Crimson Sweet-scented,</i>	
<i>Millet—Extra clean, for sowing,</i>	
<i>Cane Orange, Yellow and Honey Locust,</i>	
<i>Strawberry, Currant and Raspberry Seed,</i>	
<i>Buckwheat of superior quality,</i>	
<i>Bird Seed, Canary, Hemp, Rape, Maw and Rough Rice,</i>	
<i>Grafting Wax, Whale Oil Soap, Guano and Superphosphate of Lime,</i> in small packages of 25 cents each.	
<i>Fruit Trees and Shrubs of all kinds furnished to order.</i>	
<i>Books—A choice variety of Standard Works on Horticulture, Agriculture, &c. &c.</i>	
<i>American Herd Book, Vols. 1, 2 and 3.</i>	

R. L. ALLEN,
 189 Water st., New-York.

NEW WORK! NOW IN PRESS!
SORGHO AND IMPHÉE,
THE CHINESE AND AFRICAN SUGAR CANES.

A COMPLETE TREATISE UPON
 their Origin, Varieties, Culture and Uses; their value as a Forage Crop, and directions for making Sugar, Molasses, Alcohol, Sparkling and Still Wines, Beer, Cider, Vinegar, Paper, Starch and Dye-Stuffs.

FULLY ILLUSTRATED WITH DRAWINGS OF APPROVED MACHINERY; with an Appendix by Leonard Vray of Caffraria, and a description of his patented process for crystallizing the juice of the Imphee; with the latest American experiments, including those of 1857 in the South. By
HENRY S. OLCOFF.
 To which are added translations of valuable French pamphlets received from the Hon. John Y. Mason, American Minister at Paris.

PRICE ONE DOLLAR.
 Sent by mail, post-paid. Orders taken immediately. To be first received will be first filled.
C. M. SAXTON & CO.,
 Agricultural Book-Publishers,
 140 Fulton-st., New-York.



THE LAWTON BLACKBERRY.

THOSE WHO DESIRE TO PUR-
 chase the genuine plant, are invited to visit my grounds, and partake of the fruit from the first of this month until the middle of September.
WM. LAWTON,
 Near to the Depot of the New-Haven Railroad, in the village of New-Rochelle, Westchester County, N. Y.

A CARD.

All Persons feeling an interest in the **NEW-ROCHELLE or LAWTON BLACKBERRY** are invited to visit our Grounds after about the 6th of August next, for the purpose of seeing the great bearing habit of the Plant, and also to *taste the fruit.*

GEORGE SEYMOUR & CO.,
 South Norwalk, Conn.

Cherry Currants.

CHARLES J. ERHARD'S NURSERY, RAVENSWOOD,
 Long Island.

THE UNDERSIGNED OFFERS HIS
 fine stock of Cherry Currant Bushes at
 \$15 per hundred for 1 year plants;
 \$25 do. for 2 year's plants.
CHARLES J. ERHARD.

WINTER CHERRIES FOR THE MIL-

LION—Enclose me \$1 and a ready-directed envelope, and I will send Seed to plant ten rods square; or, for \$2, will send enough Seed to plant ½ an acre. Order early.
N. N. HARTZELL.
 Post-Office address, Dallas City, Hancock County, Ill.

Thorough-bred and other Stock for Sale, at Low Rates.

SHORT HORNS—The three bulls:
Duke of Bedford: White, calved May 17, 1856. No. 1466 Price \$125.
Katonah: White, calved June 8, 1855. No. 1732. Price \$150.
Lamartine of Bedford: Roan, calved July 22, 1854. No. 1757 Price \$200.
 These bulls are recorded by the above numbers, in the third Volume of Allen's Herd Book, and do justice to their pedigree, which connects them with the most celebrated Short Horns of England and America, and among others, with the unsurpassed herd of the late Mr. Bates, of Kirkcubbin.
SHEPHERD PONIES, from stock selected in 1843, by Mr. Blackwood, of Edinboro', \$70 to \$125 each.
ENGLISH DONKEYS, JACKS and J. m. m. s., from stock selected in England, \$25 to \$50 each.
IMPROVED ESSEX and SUFFOLK PIGS, thorough-bred, from stock imported by Col. Morris.
 Letters may be addressed to **W. JAY, Jr.**, Katonah, Westchester county, N. Y., where the animals can be seen, Katonah Station (formerly Whitlockville) on the line of the Harlem Railroad, 45 miles from New-York.

ALDERNEY COWS FOR SALE.

TWO COWS WITH CALVES—ONE
 Bull Calf, one Heifer do.; one Heifer, 15 months old; one very fine Bull; were imported some sixteen months ago, and will be sold reasonable.
GIDEON THOMPSON,
 Bridgeport, Ct.

CHOICE FARM LANDS FOR SALE.
THE ILLINOIS CENTRAL RAILROAD COMPANY
 IS NOW PREPARED TO SELL ABOUT
1,500,000 ACRES OF CHOICE FARMING LANDS,
 IN TRACTS OF FORTY ACRES AND UPWARDS
 ON LONG CREDITS, AND AT LOW RATES OF INTEREST.

THESE LANDS WERE GRANTED BY the Government to aid the construction of this Road, and are among the richest and most fertile in the world. They extend from Northeast and Northwest, through the middle of the State, to the extreme South, and include every variety of climate and productions found between those parallels of latitude. The Northern portion is chiefly prairie, interspersed with fine groves, and in the Middle and Southern sections timber predominates, alternating with beautiful prairies and openings.

The climate is more healthy, mild and equable, than any other part of the country; the air is pure and bracing, while living streams and springs of excellent water abound.

Bituminous Coal is extensively mined, and supplies a cheap and desirable fuel, being furnished at many points at \$2 to \$4 per ton, and wood can be had at the same rate per cord.

Building Stone of excellent quality also abounds, which can be procured for little more than the expense of transportation.

The great fertility of these lands, which are a black rich mold from two to five feet deep, and gently rolling—their contiguity to this road by which every facility is furnished for travel and transportation to the principal markets North, South, East, West, and the economy with which they can be cultivated, render them the most valuable investment that can be found, and present the most favorable opportunity for persons of industrious habits and small means to acquire a comfortable independence in a few years.

Chicago is now the greatest grain market in the world, and the facility and economy with which the products of these lands can be transported to that market, make them much more profitable at the prices asked than those more remote at Government rates. As the additional cost of transportation is a perpetual tax on the latter, which must be borne by the producer in the reduced price he receives for his grain, &c.

The Title is Perfect, and when the final payments are made, Deeds are executed by the Trustees appointed by the State, and in whom the title is vested to the purchasers, which convey to their absolute titles in Fee Simple, free and clear of every incumbrance, lien or mortgage.

The prices are from \$6 to \$30.

INTEREST ONLY 3 PER CENT.

20 per cent. deducted from the Credit price for Cash.

Those who purchase on long credit give notes payable in 2, 3, 4, 5 and 6 years after date, and are required to improve one-tenth annually for five years, so as to have one-half the land under cultivation at the end of the term. Competent Surveyors will accompany those who wish to examine these lands, free of charge, and aid them in making selections.

The lands remaining unsold are as rich and valuable as those which have been disposed of.

SECTIONAL MAPS

Will be sent to any one who will inclose fifty cents in Postage Stamps, and Books or Pamphlets, containing numerous instances of successful farming, signed by respectable and well-known farmers living in the neighborhood of the Railroad lands throughout the State; also the cost of fencing, price of cattle, expense of harvesting, threshing, etc., or any other information, will be cheerfully given on application, either personally or by letter, in English, French or German, addressed to

JOHN WILSON,

Land Commissioner of the Illinois Central Railroad Co.
 Office in Illinois Central Railroad Depot, Chicago, Illinois.

GREAT SALE OF

DEVON CATTLE

And South Down Sheep.

ON WEDNESDAY, 9TH OF SEPTEMBER, 1857, I will sell at public auction, WITHOUT RESERVE, my herd of Devon Cattle, about forty-five in number, and my flock of South Down Sheep, about one hundred, at my farm on Grand Island, two miles from the railroad and omnibus stations in North Buffalo.

I have bred Devons for many years. The original stock were derived from the best animals, and for the last seven years my breeding bulls have been of imported blood, direct from Devonshire, England, which, with several of my present cows, are recorded in the English Devon Herd Book. All my herd will be recorded in the American Devon Herd Book, soon to be published, and are equal, probably, in quality, to any others in this country. The herd consists of about 30 cows and heifers, and 15 or 16 bulls and bull calves.

My South Downs are descended originally from the flocks of Mr. Elman, the Duke of Richmond, and other celebrated English breeders, crossed for the last seven or eight years with rams bred by the great South Down breeder, Mr. Webb, of Baramore, England. There will be 75 or 80 ewes, the remainder rams.

As I intend making a CLEAN SALE, this will probably be a better opportunity for purchasers to select animals to their liking than any other which will occur for some time.

Descriptive Catalogues will be ready by the first of August, which will be sent by mail to all those applying to me by letter. **TERMS OF SALE**—For all sums less than \$100, cash; on sums of \$100 and over, good notes at three months, on interest, payable at bank, will be received.

The stock will be delivered on steamboat or railroad, at Buffalo, as may be desired, the day after the sale.

Those wishing to view the stock previous to the sale, will be conveyed to the farm by calling at my residence, and those attending on the sale day will cross the Niagara river between the farm and main shore by steam ferry from the omnibus station at Lower Black Rock, or North Buffalo, to which either the omnibuses or rail cars will bring them from their stations in Buffalo. Sale to commence at 11 o'clock A. M. of the first day.

BLACK ROCK, N. Y., July, 1857.

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Clover Seed Gatherer.

The subscribers continue to manufacture their CLOVER SEED GATHERER for collecting the heads of Clover. By this simple machine, a man and one horse can gather the heads at the rate of one acre in one hour.
 Price \$30.

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at every Fair wherever exhibited in several States and Counties, and it is fast superseding all other implements for cross-plowing and surface cultivation.

One of these Gangs is now on exhibition at the Crystal Palace.

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The subscriber having purchased the Drain Tile Works of Archer & Co., offers for sale the following-sized Tile:

Horse Shoe Tile cut 14 inches long—	Peeces	Tile cut 14 inches long—	Peeces
2 1/2 in. calibre.....	\$12 per 1,000	2 in. calibre.....	\$12 per 1,000
3 " " " " " " " "	15 " " "	3 " " " " " " " "	18 " " "
4 " " " " " " " "	18 " " "	4 " " " " " " " "	24 " " "
5 " " " " " " " "	24 " " "	5 " " " " " " " "	30 " " "
6 " " " " " " " "	30 " " "	6 " " " " " " " "	36 " " "
8 " " " " " " " "	48 " " "		

I warrant every Tile perfectly sound, and harder and better Tile than any before made in Albany. If not, the purchaser need not pay for them. I will also undertake Draining to any amount, and at any place, and furnish Tile for the same, and ask no pay until the employer is perfectly satisfied with the result. I am also willing to render my services in laying out Drains free of charge, to any one who purchases Tile of me.

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LIVER COMPLAINT, DYSPEPSIA, JAUNDICE,
CHRONIC OR NERVOUS DEBILITY,
DISEASES OF THE KIDNEYS,
AND ALL DISEASES
ARISING FROM
A DISOR- DERED
LIVER
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It is no new and untried article, but one that has stood the test of a ten years' trial before the American people, and its reputation and sale is unrivaled by any similar preparations extant. The testimony in its favor, given by the most prominent and well-known physicians and individuals in all parts of the country, is immense, and a careful perusal of the Almanac, published annually by the Proprietor, and to be had gratis of any of his Agents, cannot but satisfy the most skeptical that this remedy is really deserving the great celebrity it has obtained.

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MARKET REVIEW, WEATHER NOTES, &c.

AMERICAN AGRICULTURIST OFFICE, NEW-YORK, July 29, 1857.

Our PRODUCE MARKETS have shown more animation, since our last. The receipts of Breadstuffs have been to a fair extent, including several lots of new Wheat. The demand has been pretty brisk, chiefly for home use, and towards the close, from speculators. The very encouraging crop news from all parts of this country, as well as from Europe, has induced more willingness among factors to satisfy buyers. Our supplies are moderate, but the product of the unusually prolific crops will soon be generally available, and all the requirements of consumers can then be met with ease. Prices have fluctuated considerably during the past thirty-two business days, closing generally somewhat higher for desirable lots of Flour, Wheat and Corn; but decidedly lower for Rye and Oats. Among the reported sales were, June 24, 100 bushels new crop Georgia white Wheat, at \$2 50; July 2, some new crop Tennessee white Wheat, at \$2 25; and July 8, new crop Tennessee red Wheat, at \$2 @ \$2 02 1/2 bushel. These were the earliest sales of new Wheat, this season. Included in the arrivals were, June 26, a sample of new crop North Carolina red Wheat, of superior quality; and, July 23, another of good new crop Maryland white Wheat. New Wheat is now coming in freely, mainly, if not exclusively, from the South, and prices are falling rapidly. What has already appeared in this market, has been of a much more than ordinary good average quality. We will soon begin to receive new Wheat from the West, when there can be no difficulty in supplying the anticipated wants of buyers... Cotton is more sought after, at decidedly better prices. The demand comes chiefly from spinners, exporters operating very reservedly. We heard of some shipments from first hands for Liverpool. Our available stock of Cotton is now about 41,000 bales, against 30,500 bales same time last year. The receipts of Cotton at all the shipping ports, to latest dates this season, have been 2,553,373 bales, against 3,453,757 bales to the corresponding period of last season. The total exports of Cotton from the United States, so far this season, have been 2,192,171 bales, against 2,856,545 bales to the same time last season. The total stock on hand and on shipboard, in all the shipping ports, at the latest dates, was 117,045 bales, against 94,133 bales at the same period last year. The stock in the interior towns, at the latest dates, was 15,005 bales, against 9,561 bales at the corresponding period a year ago. Provisions have been in lively request, and prices of the leading articles have advanced. Several sales of Mess Pork, for future delivery, have been reported. Groceries have been in moderate demand—Coffee and Rice bringing rather firmer prices—and Teas realizing very full rates. Molasses was heavy and irregular. Sugars declined a shade, and closed with a downward tendency. Hay is plentier, and less inquired for, at reduced prices. Hemp, Hops and Grass Seed, rule quiet, and generally somewhat nominal in price. Tobacco has been in fair demand, at well supported rates. Wool is a little brisker. Manufacturers are making more inquiry for suitable lots, for which they do not refuse to pay very full prices. The available supply is limited, especially of domestic, the current receipts of which are not large. There is no real speculation—several leading buyers anticipating some falling off in prices. Holders, however, are not distrustful, and they manifest no disposition to force their supplies on the market. Other commodities exhibit no important alterations.

June 22. July 29.

Table with columns for commodity names and prices for June 22 and July 29. Includes items like Flour, Common to Fancy Western, Extra Western, etc.

Table with columns for commodity names and prices. Includes items like FEATHERS, Live Geese per lb., SEED—Clover, per lb., Timothy, mowed, per bushel, etc.

The subjoined tabular statement presents summaries of the total receipts of the leading kinds of Breadstuffs, by railroad, river and coastwise, and of the total sales, here, for thirty-two business days, ending to-day, as well as of the exports from the port of New-York for the same period:

Table with columns: Receipts, Sales, Exports. Rows include Wheat Flour, bbls., Wheat, bushels, Corn, bushels, Rye, bushels, Oats, bushels.

These summaries enable us to make the following comparison of the receipts and sales:

Table with columns: Receipts, Sales. Rows: Total 32 days this month in bushels, Total 27 days last month in bushels.

Increase this month, in bushels..... 715,000 393,550

They also afford the following comparison of the exports, from the port of New-York, for twenty-seven business days last month, and thirty-two business days, this month:

Table with columns: LAST MONTH, THIS MONTH. Rows: Flour, bbls., Wheat, bush., Corn, bush., Oats, bush.

CATTLE MARKET.—The receipts of Beef Cattle for five weeks ending July 22, were 16,371, or 2,852 more than during the preceding five weeks. Receipts for the week ending June 24, 3,133; July 1, 3,451; July 8, 2,744; July 15, 4,090; July 22, 2,953. Prices varied as follows: June 24, 1c. 1/2 lb lower; July 1, 1c. lower; July 8, 1/2c. higher; July 15, 1c. lower; July 22, 1/2c. lower, making a total decline of 2c. for the month. Wednesday, July 22, prices ranged: Premium Cattle, none offered: First quality, 11 1/2 @ 12c. Medium quality, 10 1/2 @ 11c. Poor quality, 9 @ 9 1/2c. General selling prices, 10 @ 11c. Average of all sales, 10 1/2c.

Receipts of Sheep and Lambs for the five weeks ending July 22, have been 51,838, which is a large increase over the receipts of the preceding five weeks. Sheep now bring 9 @ 12c. 1/2 lb estimated dressed weight, and Lambs 12 @ 14c. 1/2 lb. The dressed weight of Sheep is estimated at about one-half the live weight.

THE WEATHER, during a month past, has been generally warm, and even hot and sultry; so much so, that a drouth was feared. We noticed Corn in Western Illinois, curling under the scorching heat on the 7th, 8th and 9th of July, and this was the case in other places, and at a later date. Copious rains, however, fell in various parts of the country from the 15th to the 25th, and set all things right. Corn and other Summer crops have pushed forward wonderfully, and are still doing so. Our Weather Notes, made near this city, when condensed, read: June 24 to 27, clear and warm, 90° on 27th; 28, cloudy, warm, thunder shower at night; 29, cloudy; June 30, to July 3, wind N. E., and raining most of the time; quite cool, and snow reported in some places in Pennsylvania; July 4, cloudy A. M., clear P. M.; July 3 to 18, generally clear, and quite warm (93° in shade at 11 A. M.); ground became dry, and roads very dusty; Corn pushed ahead rapidly, and much Hay gathered in good condition; July 19 to 23, clear, warm, but showers at night of each day; 23 and 24, heavy rains, and much thunder; life destroyed, crops beat down, cellars flooded, &c.; 25 to 28, clear, warm, growing weather.

When this Number is Mailed.

The first copies of this (August) Number will be mailed to the most distant subscribers on Thursday, July 30. The balance will be mailed on Friday, July 31, and Saturday, Aug. 1, those going the greatest distance being sent off first. A few copies, particularly to new names last received, may be delayed to Monday, Aug. 3. All further delays must be charged to the U. S. Post-Office Department.

City subscribers who have paid for delivery, and who do not receive their papers regularly by carrier or penny post, are requested to give notice at the office.

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Are always supplied without charge.

Personal Letters, or those for the Editor only should be marked Private.

Persons forwarding money by mail may consider the arrival of the paper an acknowledgment of the receipt of the money

Contents for August, 1857.

Table listing various articles and their page numbers, including Apples, Keeping, Bee Hive, Wonders of—No. 11, Blackberries, Books, A Farmer's Library, Boys and Girls, Note to, Budding, Cabbages and Turnips on waste ground, CALENDAR OF OPERATIONS for August 1857, Cattle Disease in Ohio, Celery, Chickens vs. Insects, Corn, Drying Sweet, Crops, The Prospects, Currants as a market crop, Dogs and Sheep, Exhibitions, Agricultural, for 1857, Farm Journal, Farming, Does it Pay?, Farm, Calendar for August, Farming, Chief Aim in, Flower Garden and Lawn—Operations in, Fruit, Preserving in Cans and Jars, Gang Plow, The—Illustrated, Gardening in August, Grain, Stacking—Illustrated, Grape Culture—No. VIII, Grapes, Preservation of Fresh, Raising Fruit vs. Hunting it, Grass the Greatest Blessing to Agriculture, Green and Hot House, Care of in August, Guano and Concentrated Manures, Hop Culture, A full Chapter on, Inarching explained—Illustrated, Insects, The Apple Worm, Kitchen and Fruit, Garden Calendar for August, Layering explained—Illustrated, Manures, Oceanic, Potato Vines for, Medal of U. S. Agricultural Society—Illustrated, Mowers & Reapers, Nat. Trial of, at Syracuse, Onions and Lettuce, Winter, Orchard and Nursery, Calendar for August, Osage Orange, What of the!, Pennsylvania Matters, Farm School, Pickles, Pork Market, A Bearish Movement in the, Preserves and Preserving, Season, Hints for the, Seeds, Saving of, What do you want?, Strawberries—Chapter VII, Sugar Making, Directions for, Thistles, Canada, Tim Bunker on the "Weaker Brethren", Trees, Examine your, Turnip Culture—No. II, Vinegar Making, Vines, Hardy Ornamental, Weeds a Blessing, Economizing in Killing, West, Editor's Visit to, Wheat, Seed, WORK FOR THE MONTH, Yale Agricultural and Scientific School, OUR BASKET; or, Notes to Correspondents, and Gleanings—Almonds, Apricots—Blacksmith's Sweepings—Bee-keeping—Budding—Cooking—Corn, Topping, Suckers—Currant Wine—Draining—Drain Tiles in Sand—Egypt, Ill.—Fruit, Getting new varieties—Grape Grafting—Grapes—House-keeping—Kohl Rabi—Lands, Wisconsin—Lupin polyphylla—Muck—Onions, Wild—Pear Tree, Unthrifty—Pickling—Rape—Roofs, Leaky—Rye, (White)—Sewing Machines—Strawberry, Peabody's—Sugar Cane Suckers; do., Harvesting—Tomatoes, Preserving and Drying—Vinegar—Wire Worm—Wisconsin Lands, &c.

American Agriculturist.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; IN-DOOR and OUT DOOR work around the DWELLING; care of DOMESTIC ANIMALS, &c. &c.

The matter of each number will be prepared with reference to the month in which it is dated, and will be promptly and regularly mailed at least one day before the beginning of the month.

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All business and other communications should be addressed to the Editor and Proprietor,

ORANGE JUDD,

No. 191 Water-st., New-York.

AMERICAN AGRICULTURIST.

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ORANGE JUDD, A. M., }
EDITOR AND PROPRIETOR.

ESTABLISHED IN 1842.

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SINGLE NUMBERS 10 CENTS.

VOL. XVI.—No. 9.]

NEW-YORK, SEPTEMBER, 1857.

[NEW SERIES—No. 128.

Business Office at No. 191 Water-st.
For Contents, Terms, &c. see page 216.
Notes to Correspondents, pages 211-2.
For Business Notices, see page 212.
For Advertisements, see pages 214-5.

WORK FOR THE MONTH.

"Crowned with the sickle and the wheat sheaf,
While Autumn, nodding o'er the yellow plain,
Comes jovial on; the Doric reed once more,
Well pleased, I tune. What e'er the wintry frost
Nitrous prepared, the various blossomed Spring
Put in white promise forth; and Summer suns
Concocted strong, rush boundless now to view,
Full, perfect all, and swell my glorious theme."

Thompson, it seems, understood that the snow contained ammonia, and had a happy influence upon vegetation. The frosts of Winter induce chemical changes in the soil, and store it with plant-food for the coming harvest. Even in the days of the old Hebrew prophets, the same fact is recognized, though the philosophy is not hinted at. "For as the rain cometh down, and the snow from heaven, and returneth not thither, but watereth the earth, and maketh it bring forth and bud, that it may give seed to the sower and bread to the eater, so shall My Word be."

The poet, too, recognizes the connection between seed time and harvest, and shadows forth man's moral responsibilities in his pictures of the rural year. No department of human toil is so well calculated to impress upon us moral lessons, and we wonder not that the poet and the moralist, whether inspired or not, have drawn their finest illustrations from the fields of husbandry. The Autumn shows the farmer, as nothing else can, the connection between the past and the present, and, by inference, the connection between the present and the future. He sees in his fields, in September, the foot-prints of his own faithfulness or carelessness in the months of Spring. If he wrought with the snows and frosts of Winter, giving them material in which to store away their nitrous qualities. If his muck heaps were numerous and well plowed in in May, his corn-fields are a glorious sight now that the September sun begins to ripen the golden ears. If, on the contrary, he preferred ease to toil, and his manure heaps were scanty, there is a like scantiness in the harvest.

Even the most prompt and diligent husbandman is reminded at this season of his past delinquencies. The great truth "Whatever a man soweth that shall he also reap," is everywhere written upon his fields. A dozen years ago he suffered wild mustard to go to seed in his corn because he was

too much in haste to use the hoe the fourth time. He thought little of it at the time. The seeds were scattered, and now, after twelve years, they show themselves among his potatoes and turnips. It has been a fight to keep these weeds down for weeks past, and all owing to an error years ago. His past indiscretions in husbandry track him like his own shadow. A few years since he sowed hay seed, purchased at an agricultural store in the city. The year following he noticed an occasional Canada thistle, but did not think much of the strangers. He thinks much of them now, as they have spread over his pastures, lined the highways, and invaded his meadows. These whole generations of evil doers might have been nipped in the bud in a day's time. It will take years of patience and industry, now, to eradicate them.

He was pressed with business in July, and did not sow the piece of land he had intended for ruta bagas. It lies waste for want of a day's labor at the right time. His corn is pretty good, but as he turns down the husks from the ends of the ripening ears, he finds many are bare of kernels. He sees now that Nature had preferred to do much better by him than he has done by himself. A little more manure would have filled out the cobs to the end, without any more labor or sunshine. He regrets now that he had not purchased a few more bags of guano, or added a little more to his top-dressing of ashes.

As he tops up his stacks for Winter, he finds some of his hay in bad condition, musty, and damp. He meant to have purchased hay caps, but neglected it until the haying season was upon him, and then he was too busy to attend to it. He finds his flock of lambs less numerous than usual. He remembers in that decimated flock that he was too careless of the ewes in yearning time. He should not have been away from home at a time when it is so important for the master's eye to be upon his servants. The poultry yard, too, reminds him of the drenching rains of May and June, when so many of his chickens perished from want of care.

Few farmers are so perfect in their art that they will not find these painful reminders of former neglect as they look over their premises. Here and there they can see errors in their practice. Happy will it be for them if they act at once upon the suggestions which these shortcomings make. September brings with it leisure to

review the Summer's work, and to treasure up its teachings.

DITCHING.

Among the last spots mowed were the swales and swamps of the farm, yielding, perhaps, a ton of poor grass to the acre. All the roots of the grasses are drowned out, and have but little chance to grow except in the hot dry months. You have often thought of draining these low spots, but the right time has never seemed to come. Had they been ditched years ago, you would have cut, this season, two tons of good Herdsgrass to the acre, where you have only cut one of poor quality, fit only for bedding. Ditching must be done, if you would get the interest of the money you have invested in these swamps. Do not wait till your present stock of muck is exhausted, but ditch for the sake of letting out the water. A farmer should be content to kill one bird with one stone, if he has not the opportunity to kill two.

Now do not take it for granted that a ditch in one place is just as good as in another. It is not. In any swamp or marsh of three or four acres, there should be a regular system of drains, so that every point in the swamp shall have a fair opportunity to discharge its superabundant water. There should be a main ditch, or artery, into which the side ditches should empty, at about equal distances, and the ditches should be made of sufficient capacity to carry off the water in the heaviest Spring rains. As a rule, the edge of the swamp should be surrounded by a ditch, to cut off all springs from the neighboring upland. In this respect, many farmers fail in their drainage. The springs are not cut off.

If you have fall enough, it is desirable to drain a swamp four feet deep. But if you have but eighteen inches, it is much better to drain than to cut swamp grass all your days. With eighteen inches you may grow the best of herdsgrass, and in large quantities. In this case the drains will need to be much nearer together than where you can draw off the water four feet below the surface.

GRAVEL HILLS.

It not unfrequently happens that barren knolls or sandy plains are close by a muck swamp. Where this is the case, you may kill two birds with one stone. The gravelly sand wants muck, and the swamp wants gravel just as much. An inch or two of sand or gravel upon the swamp will do more for it than the same quantity of manure. It is quite practicable to sow grass

seed in this thin coat of sand, and have it take well. Swamps too soft for plowing may in this way be reclaimed. The gravel can be carted on in Winter, if at no other time, or, if the distance is not great, it may be wheeled on in barrows. The quantity of ground that a man will cover with a light dressing of sand in a day, is much greater than is generally supposed, and the results are frequently astonishing.

We tried an experiment of this kind last Winter, taking the soil from a bank and wheeling it a few rods, and spreading it upon the adjacent swamp, which had been previously drained. In the month of March last, we sowed Herd'sgrass seed and clover upon the snow; both took well, and we have now at this writing, in August, a fine crop of Herd'sgrass three feet high, apparently as stout and healthy as the same kind of grass upon upland.

The change upon the knolls where muck is carted on and incorporated with the soil, is equally surprising. The grass no longer withers with the first drouth, but holds on green and luxuriant till it has attained its full growth. The yield is, in many cases, more than quadrupled. These exchanges of soil, we are fully persuaded, will pay on all farms where swamps and poor land abound. We shall greatly enlarge our own operations in this direction.

BLASTING AND SINKING ROCKS.

Much very rough land is now needed for tillage in the vicinity of our cities and villages, that would not pay for clearing up 20 or 30 years ago. The boulders that lie in the soil obstruct the plow and the mowing machine, and they must be removed. The smaller ones can sometimes be sunk more economically than they can be blown. Dig a deep hole at the side, large enough to hold the rock, and so deep that when the boulder is turned over the top of it will lie two or three feet below the surface. The digging loosens the soil, and answers the purpose of subsoiling very well.

But if blasting is necessary, the process is not so difficult as to deter any intelligent laborer from undertaking it. It is now, with the manufactured fuze, no more dangerous than many other operations upon the farm. It requires very little skill to bore a hole with a churn drill, and little knowledge of powder to confine it in the bottom of the hole, and to fire by means of the fuze. The boulder should be well dug around, two feet or more below the surface of the soil; so that the powder may exert all its force upon the rock, and throw open the seams. For large rocks, five or six feet through, the hole should be bored two or three feet. Holes of this depth should be filled half or two-thirds full of powder. Smaller rocks should have holes ten, twelve, fourteen, or more inches, deep, according to size. These should not have more than one-third of their depth filled with powder. Cut the fuze long enough to reach an inch into the powder in the hole, and to come out at the top two or three inches. Then put in a bit of paper or tow over the powder, pressing it down gently with the tamping bar. Fol-

low this with pounded brick, driving it home with bar and hammer until the hole is full. Cover the rock with plank or timbers to keep the stones from flying, and set fire to the fuze. Some use sand for confining the powder, but we have never yet found anything quite equal to brick, well driven in.

Of course, if a farmer has capital, and men who make a business of blasting rocks are to be had, he will prefer to employ them. But no farmer should feel himself dependant upon a rock blower to get his rough boulders out of the way. He can do it himself if he has sufficient intelligence to load and fire a common fowling-piece. Consider if it be not high time that some of the rocks you have plowed and mowed around for a score of years, had leave of absence.

THE MANURE HEAPS

must not be neglected at this season. Consider how you may preserve and increase them. Draw in the muck from the banks of your ditches, and coat your yards and stables with it. Bring in the green weeds and swamp flags, and grass, to enlarge the stock of fertilizers. Remember that all decaying vegetable and animal matter makes manure. Gather up the fragments, that nothing be lost.

NOT TOO LATE FOR TURNIPS.

Let it be noted that the seed of several varieties of turnips may be sown *after* the 1st of September, with a fair prospect for a good crop almost anywhere in the United States, and in many parts of Canada. They will, of course, grow but small in the most northern sections, where early frosts are experienced in September. In this latitude, they *may* even be sown up to September 5th to 15th, while in Virginia, Kentucky, Southern Illinois and Missouri, and in all places farther south than these States, they may be sown up to the 1st of October, and even later still in the extreme South. They will continue to grow until the ground freezes solid. In England, where the winters are milder than with us in this latitude, it is a very common practice to sow late, and leave the crop in the fields all winter to be eaten off by sheep and other stock.

The varieties best adapted to late sowing here are the Strap-Leaf Red Top, the White Flat, and the Yellow Aberdeen, though the last named will be less likely to do well than the Red Top.

Every one can find some vacant spots of tilled land at this season, which may as well be covered with turnips as weeds. A few pennies or shillings worth of seed, hoed or harrowed, bushed, or better, drilled in, will, without farther trouble, be likely to produce a nice lot of succulent food to be fed with hay to milch cows, lambing ewes, and other stock during Winter and Spring. Those who look after such matters are the ones who make money in cultivating the soil. The above remarks apply not only to farmers, but also to every villager or citizen who keeps a cow, and has a garden.

The thoughtless and impatient shut their eyes to danger, rather than labor to avert it.

CALENDAR OF OPERATIONS.

SEPTEMBER, 1857.

[We note down a summary of various operations, many of them very common ones, it is true, but a simple catalogue like this will often suggest a piece of work that would otherwise be forgotten. The Calendar is adapted to the latitudes of 40° to 44°. A little allowance must be made for each degree of latitude—earlier north—later south. This table will be made out anew every month, and adapted to the season of each year.

EXPLANATIONS.—The letters, f. m. l., refer to *first, middle, and last* of the month.

Doubling the letters thus: ff., mm., or ll., gives emphasis to the particular period indicated.]

FARM.

Barn Yards—Absorb all liquids with a coating of muck spread over the whole. Renew it frequently, depositing the scrapings and cattle droppings in a heap under cover.
Buckwheat—Cut ff. m. If left too long, much grain will be lost in harvesting. Cradle and bind, rather than mow it, and thresh as soon as it is carted in saving the straw for bedding.

Bushes—Continue to "grub" or "whip" ff. m. Clean out hedge rows and till the soil now worse than wasted.

Cattle—Supply with the soiling crops, turnip and beet tops, cabbage trimmings, &c., as the pastures fail. A little sugar cane or corn stalks fed to milch cows will show good results in the quantity and quality of milk. Give full feed of grass and other green crops to fattening cattle, as flesh can be made much more rapidly now than during cold weather. Pumpkins and sugar beets may also be fed to good advantage.

Cellars—Keep well ventilated and put them in Winter condition, m. ll., constructing potato and root bins, fruit shelves, &c.

Clearing lands from stumps, stones and bushes, may properly pertain to the work of this month. Prepare as many acres as possible for using the mowing machine and horse rake upon.

Corn—Select the earliest, most prolific, and best for seed, tracing up by a few husks and hanging in the loft or granaries. Cut and shock as soon as ripe, or upon the first severe frost. The grain will be heavier, and the fodder much better than when exposed uncut in the field to alternate storm and sun, frost and heat.

Draining—Delay not this longer, but bring those swampy grounds under cultivation, and make the best portion of the farm where only flags and rushes now grow. Read the series of articles on this topic.

Fences should now be in good repair both to save the corn and other crops, and to bring up young stock in correct, quiet habits.

Forests designed for tillage may be cut off ff. Remove the large wood and burn as soon as fire will run among the brush, if a crop of Winter grain is to be put in the present season.

Fowls—Keep their roosts dusted with plaster, and barrel the home-made guano for another season. Read directions for putting down eggs on another page.

Grain—Look to stacks and thresh early, securing the grain from crows, rats and mice, &c.

Granaries—Cleanse thoroughly and make vermin proof.

Hogs—Commence early to fatten, and keep yards and pens well supplied with manure materials.

Manure—Collect weeds, turf, loam, pond mud, seaweed, fish, and all the muck it is possible to obtain, and make cattle, horses and hogs, convert them into a rich compost. One dollar's worth of time or labor in collecting and making manures now, is better than spending double or four times the amount in *purchasing* a much less quantity next Spring. Give a good coating to lands not yet sown to Winter grain.

Muck—Dig and cart or pile up ff. m. until the rains drive you from your "claim." Store a large quantity under cover to use in the stables next winter. *IT WILL PAY.*

Pastures are now getting short, feed all the garden refuse and green crops to make good the falling grass.

Plow grounds for Wheat and Rye ff., turning the soil a little deeper than formerly. Subsoil for these crops if possible.

Potatoes—Dig as wanted for use; but the winter crop is generally better in the ground until cool weather. They may as well decay in the ground as out of it.

Root crops are growing rapidly this month. Keep the ground well stirred with the cultivator, horse or hand hoe, and suffer no weeds to grow in the rows.

Rye—Sow ff. m. if not done last month.

Soiling Crops—Cut and feed as wanted ff. m. Any remaining should be harvested and cured while the weather is still favorable for doing so.

Stone Fences or Walls—Build these during the leisure of this month, to use up the stones and make a substantial fence at the same time.

Sugar Cane—Continue to cut and feed ff. m. The main or sugar crop should be harvested as soon as the foliage is killed by frost. See directions elsewhere.

Timber—Cut during this month in preference to leaving it till winter.

Timothy—Sow f. m. with Wheat.

Turnips—Thin late sowings, feed early ones and keep all well hoed. Sow more of them ff.

Weeds—Give to hogs or add to composts before they ripen seeds. Keep yards and manure heaps free from them.

Wheat—All not sown last month, should now be put in as early as may be, on deeply plowed and finely pulverized soil that has received a good coating of manure. Many complaints of winter-kill are owing to late sowing. The growth is not sufficient before Winter sets in to protect the roots. Where it can be done, use the drill in sowing. See article on next page.

ORCHARD AND NURSERY.

Gathering early fruits, pruning, washing and digging about the trees will constitute the principal labors in the Orchard during this month. The Nurseyman is still engaged in

Budding late growing varieties, especially peaches. Insert the buds low according to directions given on page 170 of the August *Agriculturist*. Use every precaution to obtain shoots from genuine varieties, and mark the rows with the name or number of the kind used.

Examine all buds inserted three or four weeks ago and if they have failed, insert others of the same kind. Look to bandages and unless strips of old cloth were used which rupture by the growth of the tree, loosen the binding or slit it with a knife if the union is firm.

Evergreens may be moved m. ll., but Spring is a better time. If pruning or shearing is requisite the present is a suitable time. By no means trim an evergreen to a naked stem as you would a deciduous tree. The knife should only be used to remove dead branches, and to clip the ends occasionally to form a pyramidal or cone shaped head.

Fruits—Gather early varieties with care, picking by hand. Do not wait for Bartlett and other pears to soften upon the tree, but pick just before they ripen and allow them to mature in the market or on the fruit shelves.

Grounds for Fall and Spring Planting—Prepare before the busy planting season comes on. The soil which is to produce a crop of trees should be heavily manured previous to planting.

Hoe Nursery rows still, to prevent late weeds from seeding the ground.

Labels—Procure a good supply for fall use, when you will be too busy to prepare them.

Layering—Continue f. m. as directed last month on page 184. Select wood of the present season's growth. Separate those put down last Fall, where they are well rooted.

Manures—Prepare a good supply of stable manure and muck.

Pits or Seeds of Stone Fruits—Collect and plant at once, or put in boxes of earth and expose to the weather till late Fall or early Spring.

Plow often in nursery rows and turn over the soil for Fall and Spring use. You can not stir it too much or too deeply.

Pruning may very properly be continued during this month.

Records—Keep a book of all Nursery grounds and of the specimen orchard, in which write all the names plainly, and make the arrangement such as to prevent the possibility of mistakes. If the rows run north and south (the best directions) always commence at a certain point of the compass and number both the rows and divisions of the rows in one direction. North will be a good starting point in the rows making divisions of kinds toward the South. The rows themselves may number from East, or West as most convenient, always commencing at the same point and numbering in the same direction. A book of this kind will prevent confusion should the stakes at any time be removed.

Seed Beds—Do not allow them to become overrun with weeds in the latter part of the season.

Seeds of Nursery Stock—Gather as they ripen, and as nearly all of them require planting in Autumn, it is better to put them in at once, or place in boxes of earth and leave in the open air.

KITCHEN AND FRUIT GARDEN.

Cabbages—Sow f. m., for early Spring to be pickled out in a cold frame during the Winter. Use the plow or horse hoe among late field cabbages, and keep free from weeds.

Cauliflower—Sow m. l. and treat as cabbages.

Celery—Earth up in dry weather according to the directions of last month. Keep well hoed.

Cold Frames—Get these in readiness, with the sashes in order, and arrange them for use, m. l.—manuring and spading the ground for those plants which require Winter protection.

Corn Salad—Sow f. m.

Cucumbers—Gather pickles f. m. before they are injured by the frost.

Gooseberries—Make cuttings m. ll. and plant in a deep soil, or put in boxes of earth for next Spring.

Hoe growing crops often, especially late ones.

Hops—Gather f. m. and house the poles for another year. See pages 178 and 204.

Lettuce—Sow ff. for late Fall use, and m. m. for cold frames. As it bears but little frost, transplant to the frames ll. if the weather is cold.

Manures—Begin to collect a goodly supply for next Spring, and use freely in cold frames. Muck can scarcely be too highly estimated for garden use.

Mushrooms—Collect spawn f. m. and prepare for making beds.

Nasturtiums—Gather and pickle, ff. m.

Onions—Sow ff. m. for Spring sets, and early use. A light covering of straw or brush will protect them sufficiently during the Winter in this latitude. See page 183.

Parsley—Sow ff. m. for Spring use.

Radishes—Sow ff. m. for Fall, and ll. for Winter use.

Raspberries and Blackberries—Cut out old canes that have done bearing, and house stakes for another season. See articles in this number.

Rhubarb—Seed may be sown ff. m. or left until Spring.

Seeds—Collect as fast as they ripen, and keep un-mixed and well marked.

Spinach sow ff. m. and cover upon the approach of severe weather. Straw or Evergreen brush will be sufficient. Read article on another page.

Strawberries may still be planted if the bed was not set out last month. See chapter in present number.

Turnips—Read articles elsewhere and keep late crops well hoed, running a small plow or horse hoe between the rows often.

Weeds—Keep down and prevent their sowing seed for a future crop.

Winter Cress—Sow ff. m.

FLOWER GARDEN AND LAWN.

These grounds still require attention, needing frequent hoeings, occasional waterings, and a careful removal of weeds. Many of the plants which were brought from the Parlor, Green and Forcing houses, and either transplanted into the border, or plunged into the earth without removing from the pots will need returning as the cool nights of Autumn approach. Attend also to some of the early flowering

Annuals, the grounds for which may be prepared on a warm border. After thorough manuring and deep working—trenching if possible—sow Centaurea, Clarkia, Collinsia, Coreopsis, Mignonette, Phlox, Scabious, Sweet Alyssum, &c., which will, with a little protection, stand the Winter and come into early bloom in the Spring, or some of them may be set in pots and placed in the house for Winter flowering. See page 209.

Bulbous Plants—Prepare grounds and put in ff. m. l., according to directions given elsewhere.

Carnations—Remove layers f. m. and pot or insert in the border

Chrysanthemums—Stake up, removing weak shoots, and prune side branches off from those trained to a single stem.

Cuttings of woody shrubs may be made ll.

Dahlias are still in fine flower. Keep them fastened to stakes and prune off straggling side branches. Mark the varieties of flower before they are destroyed by frost. A simple method is to tie a white strip of cloth to a white flower stalk, a red strip to a red or scarlet flower, &c. Doubling the strips conveys the idea of a double flower. This is not sufficiently definite for the amateur who should preserve the original names and specify the habits and colors upon labels attached to the plants by wires.

Delphinium—Sow m. ll.

Evergreens—Plant ff. m. if they must be put out before Spring.

Flower Stalks—Cut away and remove from the grounds as fast as they are done blooming.

Flower Pits—Construct m. ll. according to the plan described on page 79 of this volume (April No.)

Geraniums—Take off slips ff. m. and pot for Winter bloom.

Gravel Walks—Keep free from grass and weeds.

Lilies—Transplant or plant out f. m.

Pansies—Sow seed and part layers f. m.

Pinks—Separate layers and pot or plant for next season.

Primulas—Sow ff. m.

Roses—Bud ff. any omitted last month. Layer the present season's growth at the same time.

Seeds—Collect varieties before they are wasted upon the ground.

Tender Plants—Remove to the green and hot houses m. m. those varieties which would be injured by the frost. Dress and cleanse them before carrying in.

Verbenas—Pot runners f. m. to preserve a stock for Winter and early Spring bloom.

Wall Flowers and stocks—Lift from borders and pot m. l.

GREEN AND HOT HOUSES.

These should be looked to now, and, unless already done, they should have a thorough over-hauling and cleansing at once. Look to the furnaces, flues and water-pipes; see that the glazing is complete, and cords, pulleys, &c., in working order. If the houses have been entirely empty, give a thorough syringing with the force pump or garden engine, throwing the water with force into every corner, crack and crevice, to dislodge insects harboring there. Arrange the shelves, renew the bark or saw dust bed if necessary, prepare boxes and pots to receive the plants, collect mold, peat and sand for potting, and having completed the other arrangements, paint where required, leaving the windows open for a few days previous to bringing in the plants. If tender plants are exposed to the odor of new paint, it often causes defoliation. Everything being complete, commence bringing in and arranging the plants m. l., according as the weather is warm, or cool. Place the taller varieties on the back shelves, and low kinds in front, bearing in mind at the same time that some varieties require more light than others. Arrange them near or at a distance from the furnace as they need a strong or light heat. A dry shelf should contain those plants which require very little water, including most of the bulbous roots.

Air freely those houses containing plants, especially when first brought in.

Annuals—Sow a few f. m. l. for a succession of bloom.

Azalias—Take in early before cool weather checks the growth.

Bulbs—Plant f. m. l. for a succession of Winter bloom, keeping them in the green house for the present.

Camellias—Finish repotting ff. m. and take to houses m. l.

Fires—Start m. ll. to expel dampness from forcing houses.

Geraniums—Take from borders f. m. and pot for Winter bloom.

Insects—Destroy thoroughly previous to filling houses. Potting generally should be completed early, and every thing arranged for filling the shelves.

Prune and Dress Potted Plants previous to carrying to the houses.

Verbenas—Make cuttings, and layer to keep up a stock for propagation and for Winter bloom.

Water—Give to plants when repotted, and apply freely inside the house. Dampen the floors and syringe overhead to maintain a humid atmosphere.

THE APIARY.

BY M. QUINBY.

In most places, bees will add nothing to their stores after the 10th of this month. (Sept.) In some localities, they gain very little even in August; but in a few favored sections, they will increase their stores until October. This of course depends on what flowers there are to supply them. Clover usually fails the first of August. Buckwheat the first of September; but Golden rod, when in sufficient abundance, prolongs the honey season into October. As soon as the flowers cease to yield honey, the bees will be on the lookout for a supply from other sources. All weak stocks and swarms, not able to keep sufficient guard, are quite sure to be found and plundered. Every hive should be examined now, and not wait till next week, when it may be too late. Do not suppose because it was good in June, that it will of course be so now. All the defenceless ones, should be put out of harm's way at once, before honest bees are tempted into bad habits by appropriating forbidden sweets. Seasonable attention to this matter, will often save much complaint between neighbors, about "first rate lives being robbed." It is not sufficiently understood that good hives are not plundered on the start; they are left till all weak ones are disposed of. If there are no weak ones, and no refuse honey injudiciously exposed to entire bees, there will be no robbing!

A family, too weak to maintain a defence now, can not be successfully wintered with all possible assistance, and the sooner they are out of the way the better. Two or three weak ones may be united, when the stands are within a few feet of each other, and if judiciously fed, may possibly make something. A queenless stock containing stores sufficient to winter a family, should receive the bees and queen of some one or two weak, or diseased stocks. A swarm that works without a queen, and has even stored ample provisions for winter, should be broken up, as, in such cases, they always make too much drone comb for profit. In all localities where diseased or foul brood prevails, every old stock should be thoroughly examined, and if diseased, it should be condemned without hesitation. If the bees are much reduced, remove them, and by no means allow healthy stocks to appropriate the honey and thus induce disease.

As long as the weather continues warm, any combs taken from the bees, whether filled with honey or not, will need watching to keep the moth worms out—should any appear, subject them to the fumes of burning sulphur.

STABLING CATTLE IN SUMMER.

The common practice of allowing cattle to remain in the open yard, or in the pasture, over night, is a wasteful one. If in the pasture, the most valuable part of the droppings are wasted. If our pastures were in fine condition, with a loose permeable soil, the liquid manure would be retained and absorbed by the soil before it had time to evaporate. But most of our pastures are hard, for want of plowing for many years, and some of them have never been plowed at all. The solid and liquid manure dropped upon them, is mostly lost in the air.

That which falls in the barn-yard is lost in the same way, unless great pains be taken to keep it well coated with muck, and to plow the muck as often as once a week. Fifteen or twenty cows confined in a small yard, very soon tread down the earth into a solid hard-pan, like a traveled highway. In many a yard well supplied with muck, this hard-pan is not broken from the time it is carted in, in May, until it is carted out the following Spring. The most precious part of the droppings is evaporated in a constant cloud of ammonia, during the long Summer months. It is forgotten that muck is comparatively worthless in the yard, unless it be intimately mixed with the manure. In the hurry of the Summer work, the frequent plowing and harrowing of the yards are neglected. Meanwhile the farmers' riches take wings, while he works in the field by day and as he sleeps at night.

But if the muck is supplied, and the plowing is attended to, in the most thorough manner, it does not save the manure so effectually as stabling the cattle at night. In a barn properly constructed, the manure falls through trap doors into the cellar beneath, upon a bed of muck always light and spongy. Here no sun can reach it, nor winds to waste its gases. The process of fermentation is held in check by the cool temperature, and the intermixing of the manure with the muck. Where a herd of cows is trained to this treatment, they go readily to their stalls, and are at once secured, and ready for the milkers. They are less troubled with the flies than in the open yard, and the milker is never disturbed by a run-away cow. The animals, too, it is claimed, are more comfortable in the cooler temperature of the barn. They are also ready for the extra fodder which many farmers are beginning to find it profitable to give to their cows, in the dry weather of August and September. There are few pastures so flush with feed, that there is not a pinch at some period of the Summer. A cow, to do her best and yield the largest profit, should have a full supply of food continually. The corn that has been sown for soiling now comes in to meet the deficiency of grass. It is cut and drawn to the barn floor as wanted, and fed out to the cattle. The flow of milk is kept up, the quantity of butter increased, and the swelling heap of compost in the cellar beneath tells a good story of the profit of stabling cows in Summer. It is a little more trouble, but the labor is abundantly rewarded.

FARM SURROUNDINGS.

NUMBER VI.—TURKEYS.

In our last (at page 148), we discoursed of poultry—hens, commonly called. We now talk of the turkey, a weightier, if not more useful creature; for next to chickens, we consider them the greatest luxury of the farmer's table, and the most attractive for the market. The policy of keeping and rearing turkeys will depend much on your farm or homestead, its proximity to neighbors, the liability to depredations by vermin and birds of prey—a dozen things, in fact, which your own observation or experience must decide. We presume, however, that your facilities for both keeping and rearing them are good, and therefore we go on. But we will say in starting, that if you have valuable grain fields of any kind near the farm buildings where your poultry is kept, and you cherish the grain crops more than the turkeys, by all means let the latter alone, unless you confine them till after harvest, for they are an uncontrollable pest in standing grain. Grass lands are best for them, for the young ones will not injure it, if the broods, with the mothers, are confined while the meadows are growing, and hay-cutting is usually over by the time the chickens are in "the road," up to which time they should be confined; and when the crop is secured, the grass-hoppers are large enough to give them all the food they need, except a slight meal at night, when they return from foraging, and to call them into their usual roosts for the night.

Even in grain fields they are capital gleaners; and as with grass feed, they may be kept close till grain is cut, when they then turn out, and in open column spread over the stubble, picking up the scattered kernels, and devouring insects alike, a beautiful sight they are, and we have stopped hours in our saunterings over the shorn fields to watch with what alacrity they spy and chase, and gobble down the depredators on the fruits of our toil and solicitude. So, let the country dweller and the farmer weigh well his choice, whether he will be spoiled by noxious insects, or spare a little wholesome toll to his young turkeys, who are sure, at the close of the season, to reward him richly for all his pains with them, coupled with a little depredation—on *our own* lands, be it understood—but not on our neighbors.

Turkeys, usually, are not of any particular breed. They are all of one original race—the wild bird of the American forests. In their normal state, they are of one color, as described by Wilson, Bonaparte and Audubon, in their books of ornithology. Their color is a bronze brown, of great glossiness, with a metallic coppery lustre, glittering beautifully in the sunshine; a plumage of exceeding brilliancy. Seldom are their prismatic colors equalled by those in a state of domestication, and were the wild bird easily brought into subjection, and so retained in its purity, we should greatly prefer its uniformity of plumage, and the erect gait and imperial habit which it brings from the woods. But these are counterbalanced by its shy disposition and propensity to ramble abroad, secreting its nests in the woods or groves, and by the casualties they are prone to suffer in the indulgence of such vagrant habits. Commend us, then, for domestic uses, all things considered, to the best kinds of domesticated turkeys. The wild bird is no larger in size than the average of tame turkeys, although some people think so. Though not of different breeds, there is quite a variety of style and size in the domestic turkey, according to the treatment they receive at the hands of their breeders, and the soils and food on which they are reared. The

largest and finest birds we have seen are those of Connecticut, Rhode Island, and the primitive soils of Eastern and lower New-York, New-Jersey, and Eastern Pennsylvania. Dry, gravelly soils are proverbially healthy for them. They are reared usually by small farmers, on mixed food, such as milk, boiled potatoes and Indian meal, when young, and fed off on corn and cooked mush in preparing for market. They thus acquire a weight of several pounds larger at maturity than when reared on moist or clayey grounds, and left to shift for themselves in infancy. We have seen many a full-grown gobbler at two or three years old, that would weigh thirty to thirty-five pounds alive, at his fattest, and hens of equal size, that would kick the steel-yard beam at eighteen and twenty pounds, while the neglected ones, at their very best, would hardly reach twenty or twenty-five in the one, and a dozen to fifteen pounds in the other. The turkey is like every other animal, in fact, improved or deteriorated as they are treated, cared for, and acclimated.

As to color, it is chiefly a matter of taste in the selection. We have kept them of all shades, from a jet black to a snow white. But on the whole, we prefer colors other than pure white. As a variety, the whites are fanciful, but we never saw them so large as the others; nor are they usually so hardy; and their skin is paler, indicating less flavor in flesh than the darker ones. The white ones have white legs also, which is objectionable. The *true* color of a turkey's leg is a deep pink or reddish; that of the wild bird is always so; yet the coal black ones have usually a dark leg, but redeemed by a gold-colored skin, covering a rich, high-flavored meat. The dark-colored birds, also, are more hardy, and require less nursing than white ones. Any color, in fact, which has a black or dark edging to the feathers, even if the body of the feathers be white, is good, and if the birds themselves bear our description, we would not object to them. If a variety of color be desirable in your flock, you have but to select your breeders of different hues, and every probable shade, between a crow black and a pure white will be among the offspring.

In selecting your breeding birds, a perfect form and a stout healthy body should be the first objects. The cock should be proud, full of gobble, and strut,—domineering and pretentious. These characteristics indicate constitution, hardness, and stamina. The hen should be quiet in habit, full in body and feather, and domestic in her attachments. We do not here propose to lay down directions for the treatment and rearing of turkeys, as it would occupy more space than we have to give, and as we have already alluded to the excellent treatise of our friend Bement, in his Harper's Edition of the "Poulterer's Companion," shall turn our reader over to him for full details on that subject. We have bred turkeys from our early boyhood, have had varied success with them, keep them now of a size and weight the largest and heaviest that we have named, and think that we can almost beat the world in the excellence and prowess of our birds, which, by the way, we care not to tell of, as a whole army of our pains-taking subscribers would besiege us for specimens. We therefore give them due notice that we are not a turkey merchant, and for their wants in that line commend them to an examination of the various flocks in their own neighborhood and elsewhere, from which either to commence their own stock, or invigorate and improve it, if needful. One or two items in management, however, we will name, by an adherence to which we have been uniformly successful. These are, first: Have a kind, faithful, ex-

perienced woman, who loves poultry, to look after them. Second: Let your hen lay a *single* clutch of eggs, and then sit on them, as a late brood is worth little in this climate. Third: Confine the hen and her brood in a pen, six or eight feet square, well covered, on a clean sod; give the young chicks all the milk, either sweet or sour, they want, and *thoroughly* cook the food for them. If you have not sour milk curds, Indian meal, well boiled into mush, as if you were to eat it yourself, is the best food, as *raw* pudding scours them; and as they grow larger, mix boiled potatoes with it, if you have them, till they get as large as quails, and can catch grasshoppers; then let them out to scour the fields, and our word for it, you will always have, barring accidents, a noble flock of turkeys in the Fall to reward your pains-taking.

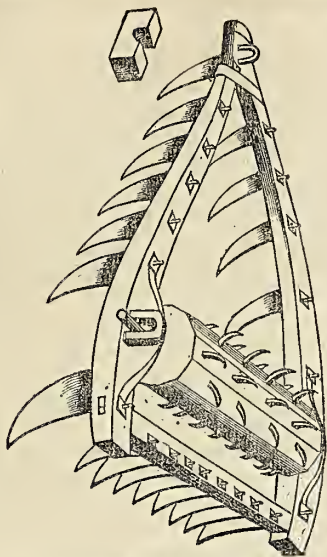
THE AUTUMN FAIRS.

The season is approaching for our annual exhibitions of agricultural and horticultural products. These are the most useful and interesting of our rural holidays. Here convene enthusiastic and skillful cultivators, from far and near, to compare opinions, to discuss unsettled questions, to glean curious information of all sorts, and to win prizes! Such gatherings operate favorably in many respects. They furnish a season of rest from labor, and of relaxation from the daily cares of home life. They bring out the leading minds engaged in rural occupations, whose zeal and whose success inspire others with new enthusiasm in their chosen pursuit. They lead to the forming of new acquaintances, and brighten the links of old friendships.

But some persons, as we happen to know, refrain from active participation in Fairs because having competed a few times for premiums without success, they think it useless to try again. To such we would kindly say: Don't think the great object to be sought in attending Fairs is to win premiums. It is a higher and better object to give and to gain information, to give and to get new impulses, to form new friendships, and to confirm old ones. Dear Sirs, go to the Fair, then, by all means. Take with you whatever excellent production you may have, and let it take its chance in the competition for reward. But do you be sure and go. Go, with a glad and free heart, thankful for the blessings of a kind Providence, and let the light of your happy countenance diffuse joy over all you meet.

The prominence lately given at our Fairs to exhibitions of horse-speed, and of female equestrianism, we cannot approve. In admiration of that noble animal, the horse, we are second to none. In admiration of woman, we are—what shall we say! But there is a place for everything. We like not to have our peaceful agricultural exhibitions turned into horse-races; and least of all, do we like to see gentle, loving woman vaulting into the arena to become a spectacle for gaping thousands.

An improvement on our present mode of conducting Fairs would be, to connect with the exhibition of any superior product, some account of the method of its production. It is not enough to dazzle the eyes of the spectator with splendid animals, vegetables, fruits, grain crops, &c. The earnest minded cultivator is all the while inquiring, *how did he do it, and how can I do the same, or a similar thing?* Such information could be given, perhaps, verbally, by the exhibitor himself, on some day specially set apart for such purposes,—or it might be given in a concisely written statement appended to the object exhibited. If some such arrangement could be made, we think it would add a great attraction to our Fairs.



HARROW AND CLOD CUTTER.

Above we present a cut of an implement, which, from the appearance of the engraving, and from the description furnished to us, would appear to be a valuable acquisition to the farmer. It is proper to say that we have not personally used or examined the implement itself, and we only introduce this notice of it to give our readers the same opportunity as we have, of judging of its merits. The advantages claimed by the inventor are, that while the knife teeth cut up clods, the roller, weighing some 400 pounds, and armed also with cutting teeth, pulverizes the soil completely. The points of the teeth being inclined backward, obviates the usual clogging, and facilitates its passage over rocks and fast stones. The 19 knives in the triangular frame, each projecting 9 inches, and the 32 knives in the roller, projecting 3½ inches, must certainly tear the ground to pieces pretty thoroughly—an important thing in tillage. There are other advantages claimed for it over the common harrow and roller, and in its use on various kinds of lands. These will be evident to the practical farmer. The implement was patented two years since, by Wm. Gourley, of White Post, Va. For further information respecting its price, &c., see advertisement.

HINTS ON WHEAT SOWING.

Having discussed this subject somewhat fully in our last volume, we do not propose to take it up again at length before next year. There are some hints, however, which cannot be too often, nor too strongly presented.

Sow early.—There is only one prominent objection to early sowing, viz.: that the Hessian fly attacks early sown wheat the most severely. But the ravages of this insect, (which works only in the stalk,) like those of the Chinch Bug, are confined to comparatively limited localities. The present great enemy to the wheat crop, throughout the country, is the *Midge*, or yellow wheat gnat, (erroneously called the weevil, or yellow weevil,) which is produced from the egg of the Clear-winged Wheat Fly, (*Cecidomyia Tritici*). [Let it be noted that the *Hessian Fly* attacks the stalk, in the Autumn and Spring; the *weevil* attacks the ripe grain, usually after it is in the mow, stack or granary; while the egg of the *Midge* is laid in the immature grain, and hatches out into a little yellow worm, or gnat, which only eats the grain while still soft.] Now, we believe, all experience proves that the *Midge* is least injurious to early sown, or early ripening wheat. This insect is not hatched until somewhat late in the Spring or Summer, and as it can only injure the grain while soft, wheat

ripening very early gets out of the way before the *Midge* can materially effect it. To avoid it as much as possible then, sow early in Autumn, that the crop may get well started this season; sow the earliest maturing varieties, and hasten the crop forward by manuring, and by making the soil dry as possible by draining or ditching. In answer to the numerous inquiries for a remedy against this pest, we can give no better specific than the one here stated. Various remedies have been proposed, such as burning sulphur in the field, scattering lime over the grain; while wet with dew during the setting of the grain, but none of these have as yet proved valuable, so far as we can learn.

Early sown wheat is less liable to Winter-kill, and to rotting in the ground, and, everything considered, we say get the seed into the soil now, *just as soon as possible*. Nature is a good prompter, and she sows the next crop as soon as the ripe grain falls from the stalks. North of this latitude (41°) it would be better if every kernel of seed could be in the ground before the middle of September; and it should not be delayed beyond Oct. 1st, for several degrees of latitude south of this, though good crops are often raised in Maryland, Delaware, Virginia, Kentucky, Tennessee, Missouri and Southern portions of Illinois, Indiana and Ohio, from seed sown as late as the last of October. Earlier sowing is desirable, however.

Preparing the soil.—The best preparation of the soil is to plow in deeply a heavy coat of clover, and afterwards pulverize the surface thoroughly with the harrow, roller, gang plow, or cultivator, or with the common plow run shallow. Let the clover or sod, turned deeply under, lie undisturbed. Whatever may be the previous preparation, let the final job before sowing seed be, to reduce the surface to a fine tift. A harrow with sharp cornered teeth, run often over the surface, will be pretty effectual.

Manures.—As above stated, green crops or sod land turned under, are excellent manures. Lime sown broad-cast, and well harrowed in, is good for wheat,—10 to 15 bushels per acre on light soils, and 25 to 50 bushels or more on heavy clay, or peaty land may be used. There are few light or loamy soils on which it will not pay to sow a few bushels of plaster per acre—2 to 12 or more bushels according to the good or poor condition of the soil. Guano, (genuine Peruvian only,) and finely ground or dissolved unburned bones are the very best manures for wheat. Guano should be thoroughly mixed with the soil some days before sowing the seed. Bone dust may be put in with the seed, and if in direct contact with it all the better. But no one can economically use any purchased manures for wheat, while he has a mass of barn-yard manure decaying around the stalls or cattle pens. The soils of the West, already rich in black organic matter, do not need any of these organic manures, save the “soak,” described below. On these soils, however, we think a moderate coating of lime, where it is accessible, will be found to produce a good effect. Wherever manure of any kind is used, let it be well and deeply mixed with the soil. The directions for using manures given on page 78 of this volume, should always be kept in mind.

Sow good plump seed.—On this point, please turn to page 78 of this volume, (April No.,) and read the first column. Large plump kernels furnish just the kind of nutriment needed to give the germ a good start, which will tell strongly upon its future growth. That “*like produces its like*,” holds good generally for all kinds of seed, and in nothing more than in wheat. The best wheat grower we have ever known, (now deceased,) practiced, from year to year,

sorting out the large kernels only for seed. He had a coarse hand sieve made, and kept a person using it for several days every year. To secure 100 bushels for seed, or family use, 500 bushels were sifted over. Four bushels out of every five passed through the meshes, only the fifth bushel of large plump kernels remaining in the sieve was thrown into a separate bin to sow, or grind for home purposes. Even that passing through the sieve was always good enough to bring the highest market price. This practice, pursued from year to year, produced marked results in the improvement and increased yield of the crop. Not only does such a method improve the quality of the wheat grown, but it is the surest plan for getting rid of foul seeds.

Many good wheat growers thresh all their seed wheat with a *flail*, to avoid crushing the kernels by using a threshing machine, which often cracks or bruises at least a tenth part of the very best kernels. Their method is this: The whole sheaves are thrown upon the threshing floor, and the heads beat a few times with a flail, which takes off a portion of the ripest and plumpest grain. The sheaves are then packed away in the mow to be run through a machine at leisure. Any one used to the flail knows that by only stopping to beat off half of the grains, he can, in a short time, thresh a hundred bushels. It is the last and smallest kernels that require the most of the hard knocks with the flail.

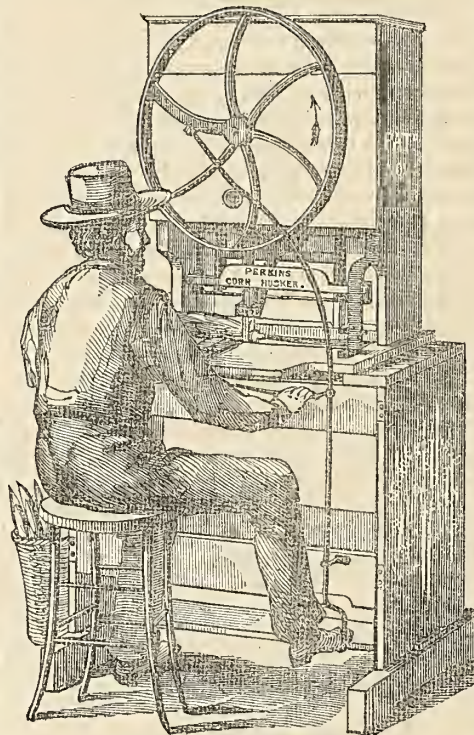
No specific variety of seed has proved best in all sections. Experience and observation are the safest guides in each locality. Taking the country together, the Red Mediterranean has done far better than any other single variety.

Preparing the seed.—To prevent all danger of smut it is always safest to soak the seed 8 or 10 hours in brine strong enough to float an egg; drain it well, and then shovel it over on the floor with fresh slaked lime until every kernel is well coated. Enough may be prepared at a time for two or three days' use, if it be not left in a large heap to heat. The prepared seed should not be long exposed to the sun, before being covered in the earth. The lime serves a triple purpose: it prevents smut, helps prepare organic matter in the soil around the seed for furnishing the first roots with immediate nutriment, and also aids to destroy or prevent insects. We think a still better soak than the above is made by mixing one quart of tar with five or six quarts of warm water. Coat the seed with this, and afterwards roll it in lime. The tar affords additional nutriment to the young plant. The seed can be treated to the tar and lime and used immediately, or not, as may be most convenient.

Mode of sowing.—For very many reasons, we strongly recommend sowing wheat, as well as other seeds, with a drill machine. The seeding is done much more uniformly, with little more than half the quantity of seed,—the saving of seed in a single season is enough alone to pay the cost of a drill, that is on a large farm, or where two or three farmers unite in purchasing one. The seed is covered at a more uniform depth than with a harrow. Wheat growing in drills is less likely to rust, as light and air penetrate between the rows. Next to drilling, plowing in is advisable. A gang plow is admirable for this. The common plow, if run shallow, but at a uniform depth, leaves the seed in rows with a little ridge of earth between them. During Winter and Spring these ridges crumble down, and materially aid to cover and protect roots thrown out by frost. The old plan of harrowing in seed, which covers a part of the kernels two to six inches in depth, another part from half an inch to two inches, and a third

part not at all, should be discarded—the sooner the better.

The finishing touches.—Let the surface of every wheat field be left as smooth as may be. The growing scarcity of labor will increase the necessity of using harvesting machines. Let the small stones be pressed under with the roller, carried off, or piled up. If grass seed is to be sown on the wheat, now or in the Spring, it is important to leave the surface smooth for mowing. But the most important thing for the wheat crop itself, is to leave it well *drained*. Remember that it is the freezing of water in the soil, and not of the soil itself, that kills wheat. (See § 1 and § 2, page 101 of this volume.) If wheat fields are not already underdrained so that no water will stand in any part of them in Winter or Spring, then special care should be taken to have a good system of deep dead furrows left well opened—from every low spot especially, and then take care that none of them get choked or filled during Winter.



HUSKING MACHINES.

If a machine could be invented with *intelligence* enough to both pick and husk corn as it was driven through the field by horse-power, we should have some hope of relief from the sore fingers, (we speak feelingly) and aching shoulders incident to corn husking. But on this point we are yet skeptical. Several attempts have been made to construct machines which will husk the ears after they are picked from the stalk, but it appears to us that we could husk corn on the stalk faster than we could pick off the ears and place them in a proper order in a machine. However, we may be mistaken on this point, and on this account, or more to gratify the curiosity of those who may wish to know how husking can be done by machinery, we present an illustration of the last invented, and probably the best implement designed for this purpose. To explain its operation, we may take two narrow chisels and place their flat sides together. Stick these down through the butt end of the ear close to the kernels. Then draw the chisels quickly apart, and the ear will be pushed out of the husks, falling on one side, and the butt and husks on the other. In the machine here shown a similar operation takes place. The two chisels or fingers

are seen thrust into the ear just before the operator. By the motion of the wheel which is moved by a foot paddle, these chisels rise up, come together, strike down into the ear, spread apart, rise up again, and so on. The operator simply works the wheel with his feet and lays down the ears under the fingers or chisels in succession.

IS THE SEED CORN SELECTED?

Now is the time to attend to it. Look out the most forward, thrifty stalks, where there are two or three good ears on each. Let these ripen thoroughly—if practicable, more than the general crop, which should be cut before the stalks are dry, in order to make the most of them for fodder. See last column of page 150, July number. Select *only* for seed such ears as are entirely filled out at the tips and butts with plump kernels. Let these be kept in a dry place over Winter. The old plan of braiding them in tresses, and hanging them up, is by no means a bad one, though some may think it troublesome where fifty or a hundred bushels of seed corn is wanted. It pays just as well, proportionally, to expend time and care for a large amount of seed, as where only a few ears are wanted. Proper care in the selection of the best ears will not only improve the quality, but also the quantity of the next crop. And further, a little extra care in ripening and keeping seed dry, may save an extra planting next Spring—perhaps save the loss of a crop.

DIG MUCK! DIG MUCK!!

We have very often referred to the value of muck and swamp mud as fertilizers for all crops, and on all soils not well supplied with organic matter, and especially of the great utility of mixing it in large quantities with the yard manure, but we cannot return to this topic too often. If we accomplish nothing else than to stir up farmers to appropriate to their fields a moiety of the rich stores of organic matter now lying useless in the swamps, swales, and low spots, we shall not labor in vain. All these black earths are the remains of plants, and, as we have formerly shown, they furnish just the elements to nourish other plants of every kind. If not already attended to, *now* is the time to dig out and pile up large stores of these materials, before the ground is filled with water. The carting to yards and fields can be done at leisure, in the later Autumn, or Winter months. Remember that one load of manure and two loads of muck are better than two loads of manure not so treated.

MILDEW ON GRAPES—REMEDY.

Mrs. H. F. McKay, of Naples, N. Y., inquires "if an answer to 'subscriber's' question on mildew will be as acceptable from a lady as from one of the 'lords of creation,'" to which we give the reply of the Irishman who asked if one man was not as good as another: "Indade he is, and a little better." Anticipating our reply Mrs. McKay gives a specific used by her husband, (one of the lords, ha!) for years, and no humbug. Take equal quantities *by weight* of lime and sulphur; put the sulphur into a barrel of the *unslaked* lime upon it; pour on a kettle of boiling water. When the whole is thoroughly mixed by the slaking and by stirring, pour in some cold water and allow it to settle. One pound of sulphur and one of lime is used for each 40 vines. The liquid is applied with a garden engine or syringe, so as to wet every leaf and bunch of grapes. The grapes require constant attention at the mildew season, which with us is from the last of July to the middle of August. A mildewed cluster is now a rarity with us.

MECHANICAL PREPARATION OF THE SOIL.

NO. V.—DRAINING.

[Continued from page 126.]

We have now entered upon the most difficult part of our subject. There is a great variety of methods which may be adopted in removing excess of moisture from land, no one of which would be everywhere applicable, and yet each of which may be best adapted to some particular locality or circumstances. (We shall defer all remarks upon the general laying out of drains, or their location, till we have described the *different methods of constructing the drains themselves.*)

The principal kinds of drains are *ridge land drains—open ditches, including sheep drains—bog drains—well drains—wood drains—stone drains—tile drains*. Each of these classes of drains are constructed with various modifications. We shall describe briefly each of these different methods, dwelling more particularly upon *stone and tile drains*, which are more generally applicable, and are the most important.

RIDGE LANDS.

Ever since the invention of furrow-turning plows, it has been customary with many farmers to plow wet ground in ridges, four to eight paces in width, turning two furrows upon a third unbroken one in the centre of the land, and the remaining furrows against these, so as leave a wide double furrow—called a dead furrow—between each of the lands. The after action of the harrow depresses the highest part of the ridge a little, and leaves a regularly inclined surface on each side, from the centre of the ridge to the dead-furrows. After the sowing of the crops is completed, the dead-furrows are cleaned out by running a plow, with either a single or double share, through them; and across these are cut deep furrows through the lower parts of the field to some convenient outlet. A spade or hoe is finally used to clean out the intersections of the furrows where they have been filled up in crossing each other; also, to remove any lumps of earth or stones that have fallen back after the passage of the cleaning plow, and to deepen any parts of the furrows where it may be necessary.

This kind of draining, where improved modes have not been adopted, is almost universal; though we have visited many farms where even this simplest of all methods of draining is not practiced. The chief recommendations of this plan of removing surplus water are: its simplicity, its cheapness, and its partial good results; and we strongly recommend its continuance where better methods cannot, or will not be put in practice. Most farmers, we believe, alternately change the position of the ridges and furrows; that is, at every new crop, they turn the ridge furrows into the former dead-furrows, and leave the dead-furrows in place of the former ridges. This may do where there is but little wetness of soil and a comparatively porous subsoil; but our own experience has convinced us, that where only one plowing is given for each crop, and where the soil is pretty wet, it is better to keep the ridges in the same place for a number of years; and when the alteration is made, to give two plowings in the same direction, so as to make new ridges as high as possible. We have often avoided a second plowing, or a cross-plowing, rather than to injure our well-formed ridges.

The manifest benefits arising from this imperfect mode of getting rid of water are strong evidence in favor of a more thorough system of draining. Upon the center of the ridges, where water quickly flows off, the wheat, clover, or other crop stand thick and heavy, while it gradual-

ly decreases in quantity towards the furrows, and near them the crop is very small, and often is entirely killed out. We think most observing persons will agree with us that on wet ground, so ridged, three-fourths of the yield is obtained from the one-third, or, at most, from the one-half of the field embracing the ridges; and that the crop would have been nearly doubled for the same labor, had all parts been equally dry.

There are several objections to this method. *It impoverishes the land.* The rain falling upon it flows over the surface into the shallow drains, and carries into the ditches the more valuable soluble portions of the soil, and of the manures applied, and none of the benefits before enumerated, of having the rain readily sink down through the land, will be derived from this mode. *The draining is superficial.* The dead-furrows are necessarily shallow, and can only remove the water from a small depth of the surface soil. The subsoil is not benefited by freeing it from water and allowing the air to enter, and, as a consequence, poisonous substances are not removed; deep-rooted plants will not penetrate downward, and their healthy, thrifty growth will not be long continued.

To these objections may also be added the unevenness produced in fields so treated; the difficulty of cross-plowing, and of using reaping and mowing machines; the liability of the furrows to be filled up by the washing in of soil, &c. But with all these objections, we believe, on the principle that "half a loaf is better than no loaf," this mode of draining is worthy of even a wider application than it now has; and that many farmers may improve their present practice, by making narrower ridge-lands; by changing the position of the ridges less frequently; and by greater care in cleaning out the dead furrows, and in securing good outlets for the water that accumulates in them. During the past Spring, we visited several farms where the dead furrows on many parts of the field were full of standing water, with no sufficient outlet, and on this account nearly all the lower ground was flooded with water from the higher portions.

OPEN DRAINS.

Another method is often practiced upon meadow and bog lands, and often upon arable lands, viz.: to cut permanent deep open ditches at wide intervals. There are some of the same objections to these as to those last described. They are continually filling up; they occupy much room that might be profitably cultivated; their banks are harbors for weeds; they prevent the free passage, in all directions, of the plow and cart; they only drain the *surface*; they are cut through the valleys, and do not intercept the water oozing out from the strata or beds on the hill-sides; and if placed sufficiently near each other to drain the intervening portions of soil, they will, in the long run, require more expense to keep them well open, than would be needed to fill them with stone or tile at first, and cover them up out of the way. There are, however, instances where they may be advantageously used, as for example, where no materials for filling them are at hand, and also where it is necessary first to dry the land before a more thorough system of draining can be prosecuted. The chief care necessary in their construction is, to give them a sufficient fall towards a good outlet, and to make them sufficiently numerous to accomplish the object aimed at, whether it be a partial or thorough drying of the land. If the soil is very porous, it is sometimes advantageous to throw the earth out upon each bank, so as to prevent the water from flowing readily over the surface into them. The water sink-

ing through the soil into them is thus deprived of some of the soluble ingredients held in solution, and these are stored in the banks of the drain. We have known two instances where the soil of the banks of these ditches became so enriched by this process, that it was found profitable to cart out large quantities of it upon poor land.

A SIMPLE LEVEL INSTRUMENT.

We will here describe a very simple instrument, which we have used in the absence of a better one, for ascertaining the water level, and the necessary inclination and depth of drains, in order to have them carry the water off from a particular field, or through a little elevation of ground. It consisted of a board 16 inches wide and 4 feet long, planed perfectly level and true, and well varnished. This and a pitcher of water constituted our whole leveling apparatus. When wishing to know the comparative level of two places, we selected the supposed higher spot, and by pouring water upon the center of the board, placed near the ground, we could easily bring it to a level, that is so that the water poured upon the middle appeared inclined to flow equally in every direction. A man was sent to the lower spot with a stick which he set upright in the ground, and upon which he placed his finger, or a piece of white paper. Sighting carefully along the surface of our leveled board, we could by a motion of the hand up or down cause our assistant to raise or lower his finger or the paper, till it was brought to a level with the surface of our board. The distance between the finger or paper on the stick and the ground would of course give the difference in level of the ground at the two points, and the necessary increased depth of ditch required to give a good current to the water. By moving the stick to different parts of the field, the deviations of its surface from a water level, can by this means be very readily learned. Placing the leveling board upon a little elevation in the centre of the field or elsewhere, we can make observations upon the whole field from one position, taking care to always deduct the height of the board from the ground from the height observed upon the measuring stick, or if the height of the board is greater than that upon the measuring stick, the excess of this height will show by so much a lower spot where the board is placed. With this apparatus—so simple as to be at the command of any one—we have been able to make very accurate observations, and those sufficiently so for all ordinary purposes of draining. It is necessary to varnish or paint the board when it is used for more than one observation, or the water will soon swell and warp it. An instrument equally simple, and perhaps more convenient, is the common spirit level used by builders. The larger the instrument the more accurate will be observations made with it. A very good one, with but one spirit glass, can be purchased for a dollar or less. The professional drainer or engineer will of course provide himself with more accurate and more costly instruments; but the farmer who lays out his own drains will find the above described levels sufficiently accurate for all ordinary operations.

Diogenes being asked of what beast the bite was most dangerous, answered: "Of wild beasts, that of a slanderer; of tame, that of a flatterer."

Can you teach the bee to build a cell, or the bird a better nest? They teach us, however, wisdom by modest and silent examples.

One of the boys tells of a scarecrow made by Uncle Ben. It not only scared off every crow that saw it, but one crow was so frightened that he brought back the corn he stole three days before.



VERTICAL THREE ROLLER SUGAR MILL, FOR PRESSING CHINESE CANE.

SUGAR CANE AND SUGAR MAKING.

A majority of our readers have small plots of the Chinese Sugar Cane, which they planted for the purpose of "seeing how it looked," or how it would grow with them, and also to secure seed of their own raising for another year, should it be wanted. Owing to a wet, late Spring, some did not plant at all, while with others, the seed rotted in the ground. Up to August 1, reports from many parts of the country were discouraging, but since then, we have had very different accounts. Numerous letters, recently received from subscribers in almost every direction, say that the plants are now pushing forward very rapidly, much of the earliest planted being already from eight to twelve or more feet high. This is the case with our own crop. We planted it at different times, on a variety of soil, with various fertilizers, notes of which will be published when the full result is known.

HINTS ON SUGAR OR SYRUP MAKING.

Some of our readers will experiment with this plant on a small scale, with reference to its sugar capacity, while a few have gone into it somewhat largely. For those intending to make sugar or syrup in quantity, we present above, an illustration of an upright, three-cylinder mill for crushing the Cane, which we referred to on page 166 (July number). The working of the mill will be readily understood by an examination of the cut. The feeder deposits the canes, previously stripped of leaves, in a series of troughs or shelves, from which they are drawn in and crushed twice between the three rollers; the juice falls into a vat underneath, from which it is carried in buckets, or through a pipe, to the boilers. The price and capacity of these mills vary with the length of the roller; thus, one with rollers twelve inches in length costs \$100, and will suffice for grinding the cane on five or six acres or less. One of this size, worked by two horses, will press out about a gallon of juice per minute. In other sizes, the lengths of the rollers range from 17 to 30 inches, and the prices from \$125 to \$225. Particular information may be obtained by addressing Hedges, Free & Co., Cincinnati, O. These parties also manufacture cast iron sugar pans for boiling, which hold from 30 to 95 gallons, and cost from \$10 to \$30, according to size. A single pair of the smallest pans will be sufficient for boiling the juice of five or six acres. It is better, however, to have one pan, holding say 50 gallons, for the first boiling, and a smaller one for the final condensation of the

syrup. Full directions for setting the mills and pans are furnished with them, and also directions for making syrup or sugar. See also page 187 (August number). In the advertising columns of our August number, a new work on Sugar Making was announced by C. M. Saxton & Co. as in press. This is now promised by the 10th of September, and will probably contain valuable information from those more largely engaged in sugar making. We cannot, of course, speak in advance as to its merits. So much for manufacturing on a large scale.

SMALLER EXPERIMENTS.

A variety of methods may be adopted for trying a few hills of the cane. The simplest we have heard of is, to crush the canes by beating and rolling on a table or board with a common rolling pin, catching the juice in a pan, and boiling it down in a kettle.

Another: Cut up the canes very short in a straw cutter, and put them into a kettle of water and boil out the sweetness. After boiling for a time, the pieces are put into a strong bag, the juice pressed out, and the whole liquid boiled down. Both the above were tried last year.

Others will, this year, use the common sugar-crushing mill, one of which may be found in most stores where sugar is sold. Where these are used, it will be necessary to crush the joints first by heavy blows with a hammer, and then run them through two or three times, moving the rollers nearer together each time.

A wooden crusher may be made by turning out two wooden rollers, say 8 or 10 inches long, and 6 or 8 inches in diameter. These may be placed together in two pieces of plank, and a heavy long crank be fitted upon the end of one of them. To keep them close together, a hole may be made edgewise through the planks, and a tapering wedge driven in over the two ends of the upper roller. Driving this in will bring the rollers down. It will be necessary to have a long crank, made strong, in order to get power enough to press out any considerable portion of the juice. It will also be necessary to break the joints first with a hammer. As a matter of course, none of these simple contrivances will extract all the juice, but they may be adopted where only a small trial is contemplated. Iron rollers and considerable power is requisite for economical extraction of the juice in any but limited experiments. The smallest rolling mill we have seen is described at page 166. Any ingenious mechanic may get up an extempore contrivance, of wood or iron, for crushing in a small way.

BOILING THE SYRUP.

For an extensive business, large cast or sheet-iron pans will be required. A good sheet-iron pan may be made of Russia sheet-iron by almost any stove trimmer, or tin worker: A hard wood frame, with a sheet-iron bottom, bent around the edge, and nailed on water-tight, makes a very good boiler. This must of course be set in brick-work, to prevent the fire from rising around the sides and burning the wood. For the smaller experiments alluded to, the juice may be boiled down in a common brass, or even iron kettle. It is important to put the juice to boiling as soon as extracted, as it soon commences souring on exposure to the air. In all cases, a little milk of lime, or lime water freshly made by slaking lime in water, should be added to the juice, using about a teaspoonful of slaked lime mixed with half a pint of water, to four or five gallons of the juice.

The first heating should be slow until most of the scum is removed, when it may be somewhat rapid, but as the juice thickens, the fire must be lessened, to avoid burning. When a new portion of liquid is to be added to that already boiling, it should first be boiled, and skimmed in a separate kettle, and be added hot. The liquor should be skimmed as long as any scum rises. It will perhaps be advisable to add half of the lime after the main scum is removed, and the remainder when the liquid has become entirely clear.

The degree of concentration requisite can be judged of by trial. A little of the syrup can from time to time be taken out and cooled. The boiling should be continued until the syrup becomes quite thick and ropy. It is yet a mooted point whether the syrup will crystallize by simply boiling down. Any one can readily try the effect of condensing a little of the syrup over a slow fire until it becomes a thick mass, and then set it aside to crystallize, if it will do so. A specimen of thick syrup, made at Hempstead, L. I., and sent to us last Fall, was left in a tin box with the cover fitting loosely, and after drying during several months, distinct crystals of sugar collected upon the bottom and sides of the box.

TIME OF CUTTING THE PLANTS.

The point of maturity at which the canes will yield the greatest amount of saccharine (sweet) material has yet to be ascertained. The experiments thus far made, indicate that this period is just when the seeds are ripening, which is indicated by their assuming a black glossy color, but before they become hard and fully ripe. If cut at this stage, the seed can be saved without injuring the yield of juice. The heads or seed panicles may be taken off with a foot or more of the upper stalks, as this part contains very little sweet juice. As soon as the stalks are cut, strip off all leaves, which may be saved for fodder, and crush the canes, and boil the juice at once.

The seed may be stripped off and cleaned at leisure. This can be done with a scraper or hatchel, similarly to broom corn. On a large scale, it can be taken off by running through a common threshing machine, or with a flail. The seeds are tender, however, and liable to be injured for planting, by too rough usage.

As to the future value of the Chinese Sugar Cane, there will be abundant experiments on a large scale this year, to settle the point conclusively. These we shall study carefully, and give the result. It is therefore useless to discuss that matter at this early date. On this subject any information of practical import will be gladly received, whether favorable or not. The favorable side will be most likely to be set forth. A few parties are specially interested in the "African Impbe." We regret that there was not an opportunity given to test it in a greater variety of soils and locations.

COLOR OF COUNTRY HOUSES.

It is easier to decide what the color of city houses should be than of those in the country. Every one can see that streets lined with rows of white buildings would be intolerable; none but eagles' eyes could endure the glare. City houses should mostly be of a sober tint, absorbing, not reflecting, the sun's rays, and not easily disfigured by dust and smoke. But the case is somewhat different with buildings in the country.

Formerly, white was the prevailing fashion. It was a neat and cheerful color, and supposed to be the most durable. But a change was at length decreed in this fashion. Foreign writers condemned it, and native writers echoed their words with emphasis. Artists and travelers gave it a shower of ridicule. White, they said, "is too intense a color—it does not harmonize with the hues of a landscape. A house so painted forces itself into notice—it impudently stares you in the face. An object of a sober tint, unexpectedly gilded by the sun, is like a serious countenance suddenly lighted up by a smile; a whitened object is like the eternal grin of a fool. No artist, of any reputation, would introduce a white house upon his canvas. The color is too glaring for the eye to rest upon, under our brilliant sunshine." And so on. These criticisms turned the fashion into the opposite extreme. Dark, sombre colors, became all the rage. Many beautiful cottages and cheerful houses embowered among trees, were changed into gloomy, barn-like, prison-like structures. The most popular color was what the painters styled "Victoria brown," a dingy, melancholy hue, in faint imitation of free stone. Nobody really liked the change; it was a little too abrupt; but then it was the fashion, and it must be swallowed down as a very genteel thing. But common sense could not be long silenced, and she soon spoke out as follows: "Oh, ye sons of men, why run to such extremes! Because, white is too glaring, must ye therefore take refuge in black? Choose some of the softer and more cheerful colors which I furnish you,—the various shades of gray, fawn, light drab, cream-color, straw-color, the many pleasing tints in your rocks and sands." Men listened to this sage monitor, and the result was most happy. Now, houses are mostly painted in sober hues, but not in gloomy brown; in cheerful hues, but not in intense white.

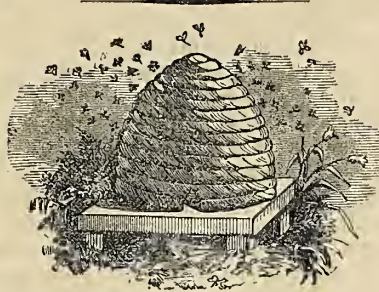
Let us not maintain, however, that no country house should be painted white. A white cottage with green blinds, nestled among trees and festooned with vines, is one of the pleasantest scenes in any landscape. Nor would we object, in all cases, to green blinds on other houses which are painted in some neutral tint. The porch, cornice, window-frames and other dressings, should be painted a darker or lighter shade than the house itself, to relieve what would otherwise be bald monotony.

Barns and other out-buildings should be painted a darker shade than the house, to make them inconspicuous, and to mark their inferior uses. Several enterprising farmers of our acquaintance, have lately rebuilt their barns, clap-boarding them and *painting them white!* Why do you so? we asked one the other day. "Oh, well," said he, "I think as much of my barn as I do of my house; and then, I wanted to spruce up a little." *Wanted to spruce up a little;* that was it. But his cattle and pigs have rubbed their muddy hides against his clean white paint, as if determined to get it as near the once fashionable "Victoria brown" as possible.

Fences should be painted in some subdued color, so as not to attract much notice. "A fence,"

says Cooper, "which looks as if it were covered with clothes hung up to dry, does very little towards aiding the picturesque."

And now, having left the house and got on "the fence," we shall decline saying anything more.



WONDERS OF THE BEE-HIVE.

NUMBER III.

When we follow the bee to its own home, we find that it is not a solitary independent worker, but one of a community, more dependent on other bees than a child upon the care and protection of human society. But where do the bees live? They seek a shelter from the rain, the wind and the sun. Sometimes, though rarely, they choose an open, exposed situation, where the only protection is the foliage of a tree. Mr. Langstroth mentions that in Philadelphia, a swarm settled on a willow tree near the Pennsylvania Hospital, and remained there so long that the boys pelted it with stones to get possession of its comb and honey. He speaks of another swarm that lodged under the lowermost limb of an oak tree, standing by itself in a corn field, and when it was discovered, there were found to be three pieces of comb, each about eight inches square.

A correspondent of a daily journal writing from Cuba last Spring, describes the curious beehives which he saw on that island. "They were simply sections of hollow trees, three feet long, laid on their sides, with the ends entirely open, in which the industrious insects carried on all their domestic manufacture in plain sight, and without any seclusion which our Northern bees appear to consider so indispensable."

Sometimes a colony of bees, seeking a new home, can find nothing better than a chimney, and so they proceed to furnish to the best of their ability the apartments it affords them. In a state of Nature, a company of emigrant bees would be likely to find the cavity of a hollow tree, and to make themselves as comfortable in it as in any palace which man could build for them. When the Charter Oak was blown down last year at Hartford, a swarm of bees was found to have been in possession of the cavity. The old-fashioned traditional form of a hive, shown at the head of this article is well known. These hives, made of twisted straw, are still used to a considerable extent on the other side of the Atlantic, but are rarely seen in this country, where lumber is cheap. The most common hive is a simple box, twelve or fifteen inches square and a foot and a half high, with the top-board projecting a little on every side, so as to shed the rain. Various patterns for utility and ornament have been devised, but the principle common to them all, is, to furnish the bees with at least one large apartment as a home and abiding place for old and young. It is important to know the proper size and shape and color of a hive; but this is a subject which comes more appropriately under the department of *bee-culture*. Some hives are made with glass sides, and the bees do not refuse to work in them, even when exposed to the full light of day. They are invaluable for purposes of study, observation

and experiment. It is a mistake to suppose that "our Northern bees" consider seclusion from the light indispensable.

As we approach an apiary at certain seasons, the first thing that attracts attention is the odor. Especially at the time of gathering buckwheat honey, the peculiar smell gives indication of the treasures which the bees are transferring to their cells. Then perhaps the busy hum of labor is heard, and the eye perceives the air filled with fleet insects coming and going in constant and quick succession. While three of our senses thus testify that we are in the neighborhood of the hive, it will be well for us if no sharp sting appeals to the sense of feeling, and "makes conviction doubly sure." Still, unless we offer some insult or attempt some act of violence, we may hope to escape without injury, and substituting *taste for feeling*, may partake of some honey, and be content with the evidence of four senses out of five.

But how are we to find out "the wonders of the Beehive?" Here is a common hive, and the air is full of bees, but how are we to know what is going on inside? There's not a hole or crack to be found except that little entrance-way, half an inch high and four inches long, and he who will may run the risk of putting his face down there.

We do not propose to go in bodily, and for the present we will not even knock at the door, but standing on the outside we will watch the entrance, as if we were members of the detective police, and keep an eye on all comers and goers. That broad alighting board will show us some things worth noticing, even if we can not see beyond it.

First, we notice the bees coming out of the hive, fifty or sixty a minute, and starting without hesitation for their pasture. The eye soon learns to follow them and distinguish them at a considerable distance; but they go in different directions, each minding its own business. Others however are balancing themselves in the air before the hive with their faces turned toward it. And some that come out of the entrance hole, do not leave the alighting board, but walk up and down before the hive. We find that the bees that come out are not all empty handed. One has something in its *palpi* that looks like a piece of wax, and away it flies with it. Another has a dead bee in its fore legs; a heavy load, but it does its work manfully, and does not let go till it comes to the ground ten feet from the hive. And here comes another with something like a white bee, held in the same way. We watch where it falls and hasten to pick it up; and sure enough it has the form of a bee, but is not perfect. It must be a young bee, that has met a violent death before coming to maturity. And what comes here, this big, blustering, buzzing thing? Is that the king? No, don't be afraid, that is the drone; it won't hurt you. They say "a barking dog never bites," and it is certain that the drones never sting. They are gentlemen of leisure, and do not happen to have any weapons of offense or defense. We can catch one then in our fingers without fear. He struggles, but can do us no harm; we see he is much larger and stouter than the working bees, and has longer hairs, but he has no means of gathering honey from flowers, and no baskets on his thighs for bringing home pollen; and probably no drone was ever seen attempting to get his dinner in the fields, or bringing sweet things home for the little ones.

And how is it with the *king*? There is no king at all; there is one bee in the hive, the only perfect female, which is the *mother-bee* of the whole family, and she is usually called the *queen*, but it would be a most remarkable thing for us to see her leaving or entering the hive. Only on rare

occasions is that privilege granted to human eyes. We notice that the bees are coming into the hive about as rapidly as they are going from it. And some of them have their thigh baskets full of the pollen of flowers; good large loads, and of different colors, orange, red, brown; and yet no load is of a mixed color. This shows that each bee has visited only flowers of the same kind, and suggests a wise arrangement of providence, in so directing the instinct of the bee, that it promotes the fruitfulness of plants by carrying the fine dust of the flower from one blossom to another of the same kind, while it does not mix the pollen of cucumbers and squashes with that of water-melons and cantaloupes.

The bees also carry honey into the hive, for they "gather" it instead of making it, but we can not see it, as it is stowed away in the honey bag in the front part of the abdomen. Wax on the other hand, is not collected, but manufactured within. Another thing interests us as we look at the entrance. A dozen bees are standing near, with their heads turned to the hive, holding on with their fore-feet, and fanning with such a rapid motion that we can not see their wings. This must be hard work, and they do not keep it up long; but as they cease, others take their places, and the ventilation goes on. This is designed to secure a supply of pure fresh air, which is essential to the success and energy of the workers. Bees may very soon be smothered, if the hive is entirely closed, and great care is needful, when they are carried any distance, to give them sufficient breathing holes. When excited by fear or anger, or some penetrating offensive odor, an extra force is sent to pump in fresh air, but the lazy drones never take their part in the work. "Sink or swim, live or die, survive or perish," they look out only for their own comfort, and not at all for the public weal. Some of the bees at the entrance do the work of sentinels. Let a strange bee come there, and they attack it, sometimes one, sometimes more set upon it, and rarely do they allow it to enter. And insects of other kinds are likely to meet with a similar and decided repulse.

We are not the only interested spectators at the hive, for a couple of toads, squatting on the ground close by, lift up their heads toward the bees, as if they knew a thing or two about bee-culture. A toad is a philosopher, almost as wise and dignified as an owl; the great difficulty is that while he does "a deal of thinking," as Paddy said, he has not the gift of speech. These toads are watching for their dinners, they know very well that the bees coming home, with a heavy load of pollen and honey, sometimes miss the alighting board and fall to the ground, or to a blade of grass; and they are ready to swallow any such poor unfortunate straggler, honey, pollen, sting and all. It is done in an instant, before you can say Jack Robinson, and it is well worth seeing for the curiosity of the thing, though the bee-keeper, after a little, will be very apt to wish the toads were somewhere else than near his hives.

Thus far we have seen only the outside, but we must another time contrive some way to see what is going on *within* the hive.

RUNNING A STRING.—This is not a difficult matter, if you have a tape-needle, and especially if wife, or daughter, or sister is at hand to use it; but if you are so unfortunate as to have neither of these, what then? The other day, we saw a bachelor sea captain get over the difficulty in this wise: Wishing to put a ready-hemmed curtain up at his office window, he whittled out a small round stick, split one end a little, put an end of the string into the opening, and at once run it into the border of the curtain. Not a bad substitute for a tape-needle.—*Ed. American Agriculturist.*

HORSES GNAWING TREES.

This morning, on the way to our office, we noticed that the trunk of a magnificent shade tree, which we have a hundred times admired, is now all torn and scraggy, because some careless man has tied his horse to it, and left him at liberty to gnaw the bark. This tree, which has been reared with care, may survive the scathing, but it will not flourish, and its once smooth trunk will always present an unsightly appearance. And how many thousands of other valuable trees are in like manner injured every year. We could moralize upon the subject at any length; we could write down in strong language the conduct of those who will make hitching-posts of fruit or ornamental trees, but that would not remedy the evil. Said a country physician to us, when conversing on this point: "In four out of five places I call at, I find no post to tie my horse to, and the anxious people within cannot wait for the "doctor" to go half a mile to find a suitable place, and so I am compelled to hitch to the nearest tree I can find."

The sight of the tree above alluded to, and the recollection of the physician's statements, called to mind a simple contrivance published by us a few years since, which we will now describe again. It was called "Ashley's Hitching Rod."



It consists of a simple iron rod, half an inch in diameter, and twenty inches long, with the strap *A* upon one end, and a clasp, *B*, at the other. The strap, *A*, may be buckled around a post or tree, and the clasp, *B*, attached to the bit. It may be attached permanently to the post, and left there for any horse stopping, or it can be carried in the carriage, and used whenever wanted. It would be especially useful to physicians and others who make frequent stops, and is quite as convenient to use as the common halter or leather strap used for the same purpose.

Another especial advantage in its use, even where there is a regular hitching-post, is, that it will prevent a horse from spoiling the beauty of a harness, and perhaps breaking it, by rubbing against the post. The cost is very trifling, scarcely more than that of a common halter, and it can be made anywhere. We have never heard of its being patented. Would it not be well for our agricultural implement dealers, harness makers, and others, to keep them on hand for sale?

BARN-YARD SCRAPINGS.

"Yankee," a Maine correspondent of the *American Agriculturist*, writes that two years ago, while remodeling a barn-yard, to so arrange it in a basin form that water would not run away from it carrying off the rich manure, he had a quantity of the bed of the old yard to remove. This he carted to an old grass field and spread it on the surface, at the rate of 15 loads to the acre. The result was that last year the good quality and the quantity of hay was increased 50 per cent., and this year the effect of the top dressing is quite as great as last year.

This is doubtless so. Many economical farmers practice carting hundreds of loads of earth into their yards every Autumn, where it becomes saturated with the rich manure liquids, and it is then spread out upon grass lands, and applied to other crops. This plan will pay, generally, when manure is required. The liquids from the manure yards usually contain the richest portion of the fertilizing matters, and more than one half of all this material in the country is entirely lost.

Muck and swamp mud is the best kind of soil for mingling with manure, but in the absence of these, good sod land is an excellent material, while any kind of soil is much better than nothing. Now is the time to dig out and pile up to dry a large quantity of muck or swamp mud. There is money in it.

A TURNIP DISCUSSION

NO. III.

We have noticed the objections to the culture of this crop, the preparation of the soil and the manures appropriate for it.

THE VARIETIES

are so numerous, that we might fill many columns with a mere catalogue. The crop is in so high esteem in England, that the best agriculturists have sought to improve it, and carry it to the highest point of perfection. There are several classes of turnips, such as the Swedish turnip or *Ruta бага*; Yellow turnip; White turnip, &c. Each of these classes has its place in British husbandry; some for storing for Winter and Spring use, others to be fed from the ground during Winter.

The Swedish turnip stands first in point of excellence. The yield is not only very large, but it keeps until the following Spring without losing in quality. It requires a somewhat richer and deeper soil than the other varieties, and more time to arrive at maturity. Seed should be sown in June, or early in July, in this country. There are a dozen or more varieties of the *Ruta бага*. *Skirving's new improved purple-topped Swede* is among the best of these, and has been quite extensively introduced among us. Two years since, we had a fine crop of this variety, and it fully realized the expectations we had cherished concerning it. It grows rapidly, and attains a large size. As a feed for stock in the Spring months, we think nothing excels this variety.

Most of the varieties of white and yellow turnips cultivated in England are not particularly adapted to our climate, and we do not anticipate any very marked results from the attempt to introduce them through the seed distribution of the Patent Office. Not one in ten will probably prove to be an acquisition. River's Stubble turnip, and Ashcroft's, we hear favorable accounts of, and we have them under trial this year for the first time. They have a short season, and admit of sowing from the 20th of July to the 1st of August, which is very much in their favor. The varieties which have proved themselves adapted to our climate are the *Cow-horn*, which is the turnip for sowing among corn at the last hoeing; the *Red or Purple-topped*, which may be sown as late as the 16th of September; *White or Flat Dutch*, the *Green-topped Ox-heart*, and the *Autumn Stubble or Six Weeks*. All these late varieties grow rapidly, have a soft texture, and should be used before the 1st of January. After that period, they begin to grow pithy, and lose their good qualities.

THE AMOUNT OF NOURISHMENT

contained in the turnip is less than in most other roots, and it is used to best advantage only in connection with more solid and dry food. Cattle want green and succulent food the year round, and with this crop the American farmer can always furnish it in the greatest abundance. An analysis of the several varieties of the turnip shows, in

64 drachms of the Swedish turnip.....	110 grains of aliment.
64 drachms of Osarden turnip.....	85 grains of aliment.
64 drachms of Norfolk turnip.....	83 grains of aliment.
64 drachms of Com'n White turnip.....	80 grains of aliment.
64 drachms of Tankard turnip.....	76 grains of aliment.

METHODS OF SOWING THE SEED.

These are various. The old plan of sowing

broad-cast is now abandoned by all good cultivators. The drill system, in its various forms, is very generally adopted. Where stable manure is used, the drill may be prepared by the plow. In the first furrow, drop the manure in a continuous row. Then cover with a double furrow, leaving the drill a little elevated. This is adapted to coarse manures, and to sea-weed. Rock-weed and kelp gathered from the shore is found to be an excellent fertilizer for this crop, and the seed is sown upon ridges prepared with the plow.

The ridge system is a good deal used in Scotland, and is well adapted to thin soils in this country. In good rich soils, furnished with fine compost, the ground should always be left flat. There are various drills for putting in the seed, either with or without special manures. There are machines for dropping the seed in hills in the drill, at the proper distances, and this is decidedly the best plan, as it economizes ground, and diminishes the labor of weeding.

Bone-dust, or dissolved unburned bones, put in with the seed, are always useful. The time of greatest peril to the turnip is in the first stages of its growth, and nothing resists the attacks of the flea-beetle so surely as vigor in the plant. The manures we have mentioned, in close proximity to the seed, make the plants push along through the seed-leaf with great rapidity.

In field-culture, the drills should be far enough apart to admit of cultivation with the horse-hoe or cultivator—thirty inches will be none too far apart for the larger varieties of turnips. The ground will be nearly covered with the leaves before the plants attain their full growth.

AFTER-CULTURE.

Fifteen or twenty days after the plants are up, they should be hoed and thinned out. By this time, the ravages of the beetle are past, and it will be safe to take out all but the plants you desire to occupy the ground. The weeding immediately about the plants must be done with the hand-hoe, and the rest may be performed by horse-power. The first weeding should be followed up with frequent stirring of the soil until the leaves are too broad to be disturbed by the operation. No crop is more benefitted by frequent scarifying of the ground.

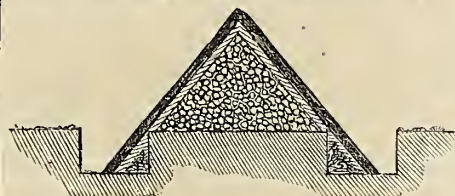
STORING.

Having secured a good crop upon the field, the next thing is to preserve them for Winter use. Our climate is so much more severe than that of Britain, that most of the methods resorted to there will be of no service with us, at least in the Northern States. Farmers who depend upon roots for Winter feeding, almost without exception depend upon a cellar for storing, and this is unquestionably the best method, even where others are admissible. Stock ought always to be fed in the barn at this season, and where a barn has been placed upon a side hill for the purpose of affording a cellar for manure, it is easy to enlarge a little, by digging farther into the bank, and there prepare bins for storing the roots. Care should be had in constructing bins, to have them narrow, not more than three or four feet in width, and to secure a free circulation of air beneath them. It is better to have the sides made of slat work, like the sides of a corn crib.

In putting up the roots, they should be divested of all leaves and stalks. This green material soon decays and generates heat, which will affect the bulbs. These cellars for storage need not be made perfect proof against frost, though this is desirable. It injures a turnip very little to be frosted, if the frost comes out of it slowly, as it would do in a bin in a cellar.

The next best method, and perhaps the best for the milder parts of our country, is storing in

long narrow heaps, and covering with straw and earth. The technical name of this method is clamping. A dry spot is selected, and the bulbs are packed with the crowns outward, in a long heap about six feet across at the base, and tapering to an edge. Then on each side of the heap or clamp, cut a trench two feet wide and one deep, throwing the mold from the heap.



Thatch the turnips carefully with straw, commencing at the bottom of the trenches, so that all rain may run off into them. If the weather is mild, they may be left in this state for a few days, until the heat is passed off. As hard frosts approach, cover the straw with earth twelve or more inches thick, terminating in a sharp edge. There should be a hole left for ventilation in the top, and at each end. These may be stopped in the severest weather. The cut represents a vertical section of a turnip clamp, with the covering and side trenches. Roots kept in this way preserve their freshness much better than when air and light have free access to them.

We are by no means disheartened at the slow progress the turnip crop makes among us. The skinning method of husbandry has not yet closed, and any crop that looks to the improvement of the soil has hitherto found but little favor. But in the older States, the skinning era has had its day, and is drawing to its close. We look with confidence to a better system, already introduced in many parts of the land, in which the growing of root crops, and the making and saving of large quantities of manure shall have a conspicuous place. The good time coming for turnips, we are persuaded is not far ahead.

For the American Agriculturist.

FARMER WILLIAMS' TOOL HOUSE.

A FARMER'S RAMBLES AMONG HIS NEIGHBORS—NO. IV.

One day, early this season, I strolled over to Neighbor Williams', for, as you already know, I like to be friendly to all, and we are a pretty social class over here. I did not wait for a "rainy day" this time, as I had a few important topics about Summer crops, &c., to talk with friend W. about. But I found him too much occupied to chat any. He was in a great hurry to begin his plowing, for the ground was in nice order. The horses and oxen were waiting to be harnessed, or yoked, and such a hurrying, scolding time I have seldom seen.

"Jim, I say, where is the bolts and clevis?" "I don't know, sure, boss. Not a bit of one could I see at all." "Well, go and look all around, and under the place where the harrow was, and see." The boss was tired of waiting, and went too. In the meantime Tom came up, with—"Masther, and there is three teeth out of that same harrow." "Well, Tom, go and get the ax and I will dress out some at the wood pile." After a long hunt, Jim and the boss had found two clevises under the rubbish, but not a bolt. Now what must they do. "Jim, go over to Neighbor Thomas' and borrow a couple of bolts; he has plenty, for I saw a number in his tool box." By this time Tom returned, with—"Masther, and it was yerself that left the ax up in the woods last week, for I couldn't find it all." Here was a dilemma for my easy, careless friend; but as the harrow had stood against the fence, exposed to

weather at all time, and in poor condition; the teams must wait for Tom to go half a mile for the ax the boss had forgotten to bring home. Jim soon came back with the borrowed articles and began to harness his team; but lo! one of the traces had ripped, and Jim had to take his shoe string to tie it up with, and the whiffle-trees were out of order. Here commenced a hunt for the hammer to mend it, but, as was the case almost invariably, the one that used it last *just laid it down* in some out of the way place, and a search had to be made every time it was wanted. But it will be too tedious to relate all the mishaps of that busy day,—how the pin (wooden of course) of the ox-bow was lost, and the chain was found where they drew the last logs out of the woods, &c., &c. After two hours waiting, the teams finally moved off to their allotted work, but the plows were so rusty from exposure that they would scarcely turn the soil, and the harness was constantly giving out. I could not see that there was a place for any tool on the farm,—for hoes, shovels, forks, rakes, harness and everything, was lying about in the corners, or on the ground, as the case might be. The truth is, Neighbor Williams' Tool House is as large as "all out of doors."

The teams being out of the way, until something should break, which I predicted soon would be the case, Neighbor showed me a whole lot of curious seeds he had recently purchased. He said he meant to try everything *this year* that was new, for he missed it last year in not buying a good stock of Chinese sugar-cane. And sure enough he had a lot of them. There were different kinds of corn, several of oats, some nuts resembling the grass nuts that grow in Carolina, which he called earth almonds, the Japan pea, &c. He was very confident some of them would be a speculation, even if he did not require the stump puller to extract his Dioscoreas, or Chinese yams, last Fall. But I fear he will be unsuccessful, for he is such a man for new things, and loves so well to attend at the doings, especially agricultural Fairs in the country, he will pay but little attention to them after they are planted. He loves to take prizes at the fairs, and many a one has he got, too, as I found by the books and cups he exhibited to the view of every one that entered his house. He always took a nice colt, calf, pig, or even a hill of corn, and gave it all the attention and labor he could to push it ahead, and neglected all the rest. Yet he was a far more noted man in the county than his thrifty, painstaking neighbor, Thomas.

A few days after this I met Thomas, and I asked him if he was not disposed to go largely into the raising of some of these new seeds, especially the Sorghum, for sale, and his characteristic reply I shall not soon forget. It was this: "A wise man will never go to catch clams at high water." Ah, I thought, how many do this very thing. As soon as the water gets high, how many rush blindly into speculation, while the clams have previously been caught and sold.

NORTH HEMPSTEAD.

S.

Swift held the doctrine that there were three places where a man should be allowed to speak, without contradiction, viz.:—"the bench, the pulpit and the gallows."

Men are frequently like tea—the real strength and goodness are not properly drawn out until they have been a short time in hot water.

In the worst of times there is still more cause to complain of an evil heart, than of an evil and corrupt world.

Sophistry is like a window curtain—it pleases as an ornament, but keeps out the light.

A NEW METHOD OF HOP GROWING.

The expense of furnishing poles for a hop yard is a formidable obstacle to the cultivation of this crop. The cost is not far from two hundred dollars per acre, a sum so large as to deter many small farmers from entering upon the business. The poles, too, being exposed to the weather, decay rapidly, and have to be renewed after a few years.

To economise in this outlay, the hop growers in some parts of the country are turning their attention to wire and cord as a substitute for poles. They lay off the plantation in the form of a parallelogram, or square. On the east and west sides they put up a row of substantial poles, eight or ten inches through at the butt, at a distance of seven feet from each other. These poles are about the size of those used for telegraphs, and are about fifteen feet high. Between the outside poles are east and west rows of smaller poles, at distances of forty-nine feet from each other, for the purpose of holding up the suspended wires. The rows of small poles stand seven feet apart. A wire is now run from the east to the west side of the field, on the top of these small poles. The wire is about the size of that commonly used for the telegraph. This gives forty-nine feet of wire between each two small poles, making room for seven hills of hops. From this wire a small cord is suspended about five feet, sufficiently strong to hold the hops, and to last several years. From the end of this cord a still smaller one runs down to the ground, and is there fastened. Around this the hop vine is trained, and it is said to adhere with as much tenacity as to a pole. In the Fall, when the hops are ready for harvest, the small cord is cut, and the hops are picked in the usual manner.

The following advantages are claimed for this method: There is a great saving of expense in the poles. One large pole does the work of seven. A great deal of labor is saved in handling poles at the time of harvest, and in storing them for Winter. The taking up of the poles at the time of picking, and the replacing them again in the Spring, forms a large item in the expense of hop growing. By the new method, a string is cut, and the hill of hops is ready for picking. A string is tied, and the hill of hops is ready for growing in the Spring. The wire is much more permanent than the poles, and the expense is much less. The cost of cord for the vines is trifling.

Those who have tried the new method are much pleased with the results, but it is not yet generally introduced. Those who have poles upon their hands for eight or ten acres of hops, will only introduce it as their stock of poles is reduced by decay.

FISH CULTURE IN CONNECTICUT.

We are informed that a company have purchased the fishing rights in Saltonstal Lake, with the intention of stocking it with salmon and other fish, by means of artificial propagation. One of the parties has successfully practised the art in Germany. This lake is a beautiful sheet of water, three or four miles east of New-Haven, and is well adapted to the experiment. It was a favorite resort of the late Prof. Norton, with whom we have enjoyed some pleasant "pickerel catchings, at Saltonstal." During the Winter preceding his death, we had our last excursion together on the 2nd of January. The mercury stood at 3° below zero all day, and yet between 11 A. M. and 3 P. M., we (two) caught, with hooks and lines through the ice, 71 pickerel, weighing 67 pounds.—Mem. No fingers, toes or

noses frost-bitten.—We wish the new fishing company as good luck, and more so.

WHITE CEDAR AND ARBOR VITÆ.

In many parts of the country these trees are regarded as identical;—the first name being the common and popular designation, and the latter being the term used by botanists and amateurs to designate the same thing. But this is a mistake which we wish to correct. The White Cedar, (*Cupressus thyoides*), is less common than the Arbor Vitæ, and grows in wet, cold, swampy situations. It is very common in New England, with a more delicate and flexible foliage than the Arbor Vitæ, in this respect resembling the Red Cedar somewhat, and the various Junipers, native and foreign. It often attains the height of 60 and 70 feet, and when growing in a wild unbroken swamp, it forms a dense and almost impenetrable mass of foliage. The wood is valuable for timber, and is much used for sleepers in railway tracks, for fencing, and in making shingles. The soil most congenial for this tree is, low swampy land, useless for tillage unless thoroughly drained. Such land would become valuable if planted largely with White Cedar.

The American Arbor Vitæ, (*Thuja occidentalis*), is an entirely different tree from the former. It is rarely seen in a wild state in Massachusetts, where the white Cedar abounds, but is found in Canada, New Brunswick, Maine, and in nearly all the Northern States. It is a smaller tree than the White Cedar, seldom reaching more than a foot in diameter, or more than 40 or 50 feet in height. The side branches are short, generally rising from the trunk at an acute angle, and forming a narrow and symmetrical spire. Very fine specimens of this tree may be seen on the banks of the Hudson, between Albany and Newburg. Sometimes, especially in forests, where the tree has become old, the branches droop quite gracefully. The great peculiarity in the foliage of the Arbor Vitæ is, the arrangement of its leaves in a flat, fan-like form. Says Downing: "Its foliage is composed of a great number of scales, imbricated, or over laying each other, which gives the whole a compressed appearance."

In the hands of a skillful gardener, it is one of the most useful trees for ornamental planting. Hardy as an oak, and as easily transplanted almost as a willow, it can be used for screens to divide pleasure grounds, or as barriers to break off cold winds from gardens and fruit grounds, or as a lawn tree for the most elegant establishment. Some specimens need no pruning to make them beautiful pyramids, and masses of lively green. Others require the knife or shears, and may be molded into any shape that fancy can dictate.

REMEDY FOR DAMP WALLS.

On all sides we meet with the complaint that stone and brick buildings are damp, and the air within them unwholesome. This is the case, especially where the soil on which such walls rest is wet, or where the buildings are surrounded by shrubbery and trees. To meet this difficulty, it is sometimes suggested that the cellar floors should be covered with a cement of water lime, laid over a coating of coarse gravel; and that the cellar should be lathed and plastered overhead. This we think a good suggestion, having tried it several years in our own dwelling with excellent results.

It has also been proposed that the sides and top of the foundation walls should be cemented, so as to prevent the absorption of moisture from the earth below into the walls of the superstructure.

We doubt whether this would remedy the difficulty. Instead of trying to make the walls impervious to water, it would be better to put some kind of non-conductor between the walls and the occupied apartments. The confined air between the plastered ceiling of the cellar, just referred to, and the floor of the lower story, is such a non-conductor, and preserves the lower rooms from the hurtful dampness rising from the cellar. Place, then, a similar non-conductor between the side walls of each apartment and the room itself. This can be done either by making the walls hollow, or by "furring off" an inch or two on the inner side of the wall. One inch of confined air, in such a situation, will keep any room warm and dry.

We hope to see the long-prevailing fashion of cheap wooden buildings gradually give way, before the English custom of erecting durable structures of brick and stone. And, for this reason, we take every opportunity to remove prejudices against such structures.

FLOWING CRANBERRIES.

To the Editor of the American Agriculturist.

The question is frequently asked, if flowing the Cranberry is beneficial in any other way than to guard against frost. In my experience, I am satisfied this plant is benefited in four ways by overflowing.

First. To protect the vines from severe cold in Winter. For this purpose they should be covered with water one foot or more above the tops of the plants. I have had my experimental plants on upland, (which could not be flooded,) cut down to the roots two Winters out of six. They sprouted out again, and produced some fruit, but not half as much as usual.

Secondly. To guard against late frosts in Spring, the plants should be kept well covered until the fore part of May; then gradually draw off the water, leaving an inch or two under the plants as long as there is danger of frost. The Cranberry *always* grows on the new sprout, and I have seen not only the buds but the new shoots entirely cut off by frost the first day of June. With this water protection during the Winter, and a partial flow until all danger of frosts are over in the Spring, the vines should uniformly bloom, and set a full crop every year, unless the plants are injured by gathering the crop in the Fall. The picking should be done by hand, as raking thrifty plants will so disarrange them that they cannot yield a full crop for one or two years after such rough usage.

Third. To kill out grass. Some portions of my meadow was so over-run with rush and other wild grasses three years ago, as to prevent their producing fruit, but by flowing and keeping the water on until the first of June, the grass has been so killed out, that it now presents little or no obstacle to the growth of the plant, or the production of fruit, and the grass will undoubtedly all disappear in a few years by the same treatment.

Fourth. To prevent the destruction of the fruit by the worm. There is in this vicinity an insect similar to the apple worm, that attacks the early setting fruit when it is about half or two-thirds grown, destroying the berry by eating it through. It has troubled me very little since I began to flow my meadow. Last year I observed some plants on the edge of the upland, just above high water mark, that set very full of fruit, but it was nearly all destroyed by the worm, while plants that were partially flooded, within one foot of them, were scarcely attacked at all, and on the main body of my meadow I hardly saw a worm-eaten berry.

E. BAGLEY.

Usquepaug, R. I., Aug. 3, 1857.

RE-BOTTOMING FRUIT TREES.

PUTTING A NEW BOTTOM ON ONE PEAR TREE, AND SUPPLYING ANOTHER WITH THREE EXTRA LIVING LEGS.

We present herewith an accurate representation of a very interesting specimen of a Beurre Diel Pear Tree now standing in the garden of Rev. A. Bullard, at Cambridge, Mass.* Its peculiarity consists in its having been furnished with an entirely new pear *bottom*, after having grown two or three years on a quince root. All are familiar with the process of supplying trees with a new *top*, by grafting or budding. This tree and others, one of which we shall refer to, show that it is just as practicable, though not so often necessary, to put on a new *bottom*.

The tree before us is trained in the *quenouelle* form, that is, tall with contracted branches bent downward. It is 14 feet in height, and only 3 to 4 feet wide at the widest spread of the branches. The trunk is 8½ inches in circumference just above the upper grafting, and 7 inches round three feet from the ground. The present form of the base was secured as follows:

Some eight years since a Beurre Diel scion was grafted upon a large quince stock, several inches above the ground, instead of budding below the surface as Mr. B. would now recommend. The head of the quince stock is shown a little above the ground in the left base stock. The first two years the pear scion grew very rapidly and vigorous. In the spring of the third year, fearing the quince stock might fail, and also as an experiment, Mr. B. took a pear stock of the second year's growth, and set it out as near to the tree as the quince roots would allow, and joined its top to the original scion at the point where the two stocks meet. This was done by paring a little from both, joining them together, binding them with matting, and covering well with grafting composition. This process was minutely described and illustrated in our last number. (See page 184). On removing the matting in autumn it was found that the two had grown well together. The top of the new pear tree was afterwards removed, leaving the older tree standing upon two living stocks, one the new pear, and the other partly pear and partly quince. The quince stock is eleven inches above the ground, the original pear stock twelve inches between the quince and the uniting points, and the new pear stock twenty-two to twenty-three inches in length. The swelling at the point of union is eleven inches in circumference. The body of the tree has become somewhat flattened on the left side, owing to there being apparently less nourishment derived from the old root than from the new. Indeed, the quince

* For the drawing of this specimen we are indebted to the pencil of Mr. Wm. Titcomb, Teacher of Drawing and Oil Painting at Cambridge, Mass. It was engraved for us at the "New-York School of Design for Women."



BEURRE DIEL PEAR TREE.

stock, which showed signs of failing last year, is now entirely dead, though it is left as an additional support.

THREE EXTRA LEGS ON A PEAR TREE.

Mr. Bullard produced a very curious as well as instructive specimen, by a process similar to the above. He planted a single pear tree on each of three sides of a Duchess d'Angouleme pear, which had been budded on a quince stock. These new trees were grafted into the central one and united

with it, so that, besides its own quince root the Duchess pear tree stood upon three other legs, and derived support from them. This tree was killed by cold weather, and it has now been dead two years. It was a curiosity, though there is not the least difficulty in producing others like it. There is scarcely a limit to the forms that may be produced by common grafting, budding, and inarching or grafting by approach as explained at page 184.

PRACTICAL USE may be made of the above process. Whenever any valuable tree has been girdled by mice or otherwise injured at any point near the root, a new *bottom* may be supplied. We have seen cases where a short scion has been inserted, the one end above and the other below an injury, so as to completely bridge it over.

AN IMPROVED SUPPORT FOR GRAPE VINES.

Having heard of a new support for Grape Vines, we called at the graperly of William W. Crane, Esq., to give it an examination, and were much pleased with its admirable adaptation and simplicity. In the usual arrangement wires are placed *parallel* with the rafters, the fixtures being all *permanent*; in the new plan the wires are placed at *right angles* with the rafters, the whole being *movable*. Eyed screws are put in the rafters about eighteen inches apart. Hooks about six inches long, and of an S shape, are hung in these eyed screws; and the wires are hung in the lower curve of the hooks. The wires are thus at right angles with the rafters, the distance between the wires being about eighteen inches, though the distance may be varied at pleasure. The wires hang about a foot from the glass, and the vines are laid on the wires instead of being tied up to them.

We believe we have seen about all the various contrivances in use for the support of vines, but we think the one above described is superior to them all; and in these days of patents, we may as well add, it is *not* patented but may be used by every body. There is no advantage possessed by the common arrangement that the new one does not possess in equal or greater degree, besides some peculiar to itself.

Less tying up is needed, the vines, in a manner, tying themselves by their tendrils; greater facilities are afforded for spreading out fruit branches, for summer pruning, &c.; the cost is less than half the best arrangements now in use; last, but not least, the whole concern can be taken down in less than ten minutes. This latter fact not only insures a more thorough cleaning of the house, and consequent destruction of insects, but is a matter of much convenience if the house is used for other purposes, such as growing roses, &c., a use to which

graperies are often applied.

Mr. Crane, who is an intelligent and enthusiastic amateur, grows his vines on the *renewal* system, or by taking a shoot from the bottom of the sash, and running it to the top of the house; this is for fruiting next year, the wood that fruited this year being entirely cut off so that his pruning is mostly done by a single stroke of the knife. The shoots intended for fruiting next season are now from twenty-five to thirty feet long, being round, short jointed, and as handsome wood as one would wish to see. The grapes are well set, and look promising. The bunches are well placed, and the air circulates freely all round the vines; and we saw no signs of mildew nor of insects of any kind. There has been so little need of tying, that we doubt whether two yards of twine have been used in the whole house.

SUMMER FRUITS.

GATHERING AND RIPENING THEM.

It is no exaggeration to say that full one half the fruit eaten in Summer is unfit for the human stomach. Else, why is it that that which in its proper state, science and experience prove to be a source of health and vigor, is so often the occasion of disease and death? Cholera and its affiliated diseases spring, we believe, not more from a tainted atmosphere than from unripe and tainted fruit. And here, the market-gardener and fruit grower are not more to blame than their customers. People are so greedy to taste the first fruits of the season, that they let their appetite run away with their judgment. Cost what it may, in money or health, their craving must be appeased.

No universal rule can be laid down as to the time when fruits should be gathered. Some should not be plucked until perfectly ripe and ready for the table; others should be gathered several days before. Among the first are strawberries, cherries, raspberries, blackberries, currants, gooseberries, plums and some varieties of the peach. If eaten before fully ripe, they are hard, sour and indigestible. If gathered when perfectly ripe, but not eaten the same day, fermentation sets in and they are fit only for the pigs. Currants are seldom gathered at the right time. They are picked as soon as they begin to change color, and the whole stem is taken, though only half of the berries on it are fully grown and ripe. What wonder that the children who love them so, have a good many aches under their aprons! The raspberry requires care in picking. There are several shades of color between a green and a "dead ripe" berry, and as many flavors. Gather when fairly ripe, not when just falling from the stem, and infested with insects. (And we will add, in parenthesis, that he who gathers the Brinkle's Orange, will gather delicious fruit.)

It might seem, at the first view, that this rule could have no exceptions, viz., that fruits should ripen completely on the tree or vine before gathering; for does not Nature know best how to ripen her own productions? There are exceptions, however. The great object with Nature, if we may so speak, is to ripen her fruits so perfectly as to insure a reproduction of the species. If man wants some of her products, he must take them, not always when they are just falling to the earth ready to beget their kind, but when they are in the best state for eating. With some fruits, that point is just before their last stage of ripening. When they have passed this stage, they become juiceless, mealy and insipid; Nature has robbed the fruit of its finest flavors in order to perfect its seeds. Is not this partly so with ordinary Winter apples? They are mature when

gathered in the Autumn, but do not pass to the last stage of complete ripeness and incipient decomposition, until sometime during the Winter. Many of the Summer apples become dry and almost tasteless, if allowed to ripen completely on the tree. So with Summer pears. Almost every variety should be gathered just as it begins to ripen, or ten days before perfect ripeness. If on lifting the fruit lightly with the hand, it parts readily from the stalk, it is then time to gather it for house-ripening. An experienced and successful fruit-grower says: "When Summer pears have attained their full growth, a change in the color and feeling of the skin immediately begins to take place; the green becomes paler, the red, if it have red, lighter; the surface becomes smoother and finer; the base of the stalk at the union with the branch enlarges; and these are the indications of fitness for gathering." We have eaten some sorts of Summer pears which, when ripened on the tree were mealy and rotten at the core, while others of the same kind, when picked ten days earlier and ripened in the house, were juicy and delicious.

The best place for ripening such pears is a cool drawer in a closet, which should be seldom opened until the fruit is wanted for eating. Drafts of air, and changes of temperature and all contusions of the fruit should be avoided.

GRAPE CULTURE—NO. IX.

BY WILLIAM CHORLTON.

All cultivators of the Grape, whose present crop has escaped the diseases to which the vine is subject in our climate, may consider themselves lucky, for it has been one of the most perverse seasons that we have ever known. Many are the complaints of spot, rot, and mildew, both out of doors and among the later crops under glass. We now have an additional proof that abundant moisture with a low and changeable temperature, is detrimental to the vine when in full growth, whether native or exotic. We think, however, that where the vines have been attended to as recommended in this series of monthly articles, there will be a satisfactory return, notwithstanding nature has been so opposed to our wishes. We may further say that nothing has been recommended that we do not individually practice.*

OUT-DOOR CULTURE.

There is not much to do in this department at present, further than keeping the continually extending growth in check by pinching out the ends of the shoots, and the ground free from weeds as previously advised. In some localities the fruit will be ripening, and a word of caution may be of service with respect to gathering the bunches. Grapes are never in their best state, either for present use or late keeping, or wine making, until they have hung some time after they appear ripe. The flavor is thereby very much improved, and the acid in a great measure removed. Never gather a bunch of grapes until a portion of the stalk nearest to the branch is quite brown and partially shrivelled, which is a sur indication that nature has perfected the fruit. After this there is nothing to be gained in quality by leaving them longer, but for winter keeping it is advisable to let them remain on the vine until they begin to shrivel and fall. A few remarks on preserving grapes will be given next month.

FORCING HOUSE.

Keep this house as open as possible, and be careful not to let it become unduly heated. Do not use any water further than is necessary to prevent the increase of insects. An occasional watering with a syringe or forc pump, will not only preserve the leaves in a healthy state for the remainder of the season, but considerably assist in keeping the vines clear of insects by dislodging them from the corners

and crevices. This will prevent their increase, and obviate the necessity of using those strong washes which some persons consider indispensable, and which, from their caustic nature, frequently injure the cellular organs of the vines. Do not remove any more of the young growth than is necessary to give free light to the main leaves attached alternately on the ripened shoots, as too close cutting at this time has a tendency to burst the buds which are intended to remain dormant until the next forcing period.

COLD GRAPERY.

It is expected that all the fruit is ripe excepting the very latest varieties. Leave the house open at all times, closing the ventilators only sufficiently to prevent the grapes from being spoiled during rains. Maintain a dry atmosphere, withholding water the remainder of the season. Last month we gave a calculation of the expenses and profits of a Forcing House, and now proceed to do the same with a Cold Grapery. It will probably be considered by many, that this latter is the most profitable, considering it is done with the least expense, but we shall find this an error when the difference of the market price of the fruit is taken into account. It must be recollected, however, that forcing requires much the most skill, and is attended with more danger than where fire heat is dispensed with. This difference is alluded to, that there may be no disappointment to the novice attempting grape growing. The house here spoken of is a curvilinear, double span, and was planted in the Spring of 1850, with seventy-four one year-old vines, forty-eight on the two sides, and twenty-six to the supporting pillars on each side of the central pathway. After the fourth crop these latter were removed, being too much shaded by the roof vines for further profit. This will explain why, for the last three years, the number of bunches are less than the season previous. It may be further stated that the crop of this summer, which is the seventh bearing season, is quite equal in all respects to those preceding. The following list is the number of bunches cut in the respective years named:

1851.....	262 bunches	1855.....	868 bunches
1852.....	618 "	1856.....	864 "
1853.....	918 "	1857.....	882 "
1854.....	1147 "		
Total.....			5559 bunches

The average weight may be put down at one pound per bunch, and the wholesale price at sixty-two cents per pound. This calculation, considering the quality of the fruit, is sufficiently low, and if the most profitable sorts had been planted, the actual gain would sum up much more. The labor is reckoned at \$2 per day, and the other expenses in proportion:

5559 lbs. at 62 cents.....	\$3,446 58
Labor 1st year.....	\$50 00
" 2d year.....	100 00
" 3d year.....	150 00
" 4th year.....	200 00
" 5th year.....	225 00
" 6th year.....	200 00
" 7th year.....	200 00
" 8th year.....	200 00
Dressing.....	160 00
Repairs, painting, &c.....	300 00
Profit.....	\$1,661 58

The above calculation shows \$1661 58 clear profit for capital invested, which in this particular instance was in the aggregate about \$2,000, and all was done in the most finished and costly style for the sake of having an elegant house. The same might have been accomplished as efficiently for half the money, consequently it is readily seen that this department of grape growing will return a good profit, if practiced in the right manner.

* We can testify to the successful practice of Mr. Chorlton. As early as about the 24th of July we received from him a single cluster of Cannon Hall Grapes which weighed full two pounds, after several grapes had fallen off in the basket in which they were carried. A large number of the grapes weighed half an ounce each. The flavor could not be excelled.... Speaking of grapes, we must notice some fine specimens of Black Hamburg and Golden Chasselas or Fontainebleau, brought to our office by Mr. John Ellis, of Fox Meadow Gardens. The Hamburg cluster which weighed 29 ounces, was produced on a vine planted in March last, and is now only 15 months from the eye. The Chasselas cluster weighed 18 ounces, and was from a vine of the same age. These vines, of which Mr. Ellis has a large number in forcing houses, though only 15 months from the cuttings, now measure 2 1/2 inches in circumference, and have yielded an average of 6 pounds of grapes each this season. The border is simply muck mixed with sandy loam.—[Ed.]

THE NEW-ROCHELLE OR LAWTON BLACKBERRY.

We present herewith an engraving of a single stem or cluster of this fruit, which shows the *actual* size of hundreds we have seen the present year. The medium berries figured in the cut are about the average form and size of most that we have seen growing for some years past. We have so often described this comparatively new plant, and so strongly presented its excellence, that we should not deem it necessary to recur to the subject again, or to introduce this illustration of the fruit, were it not to bring it before the attention of some 24,000 new subscribers who have not read our former articles. Suffice it now to say, that we consider the New-Rochelle or Lawton* as decidedly superior to any other known variety of the Blackberry. While it grows to an enormous size, the fruit is delicious, containing a rich pulp, and very few seeds. By actual trial, 8 quarts of berries have yielded full 6 quarts of pure juice, fully equal in quality, if not superior, to that obtained from the smaller varieties. The bushes or canes grow large and strong, with numerous side branches, and often produce from five to eight quarts of fruit on each. This is a pretty large statement, but any one can verify it by actual observation and measurement. The plant is also quite hardy, having suffered very little where left entirely unprotected during the last two severe winters.

On the 6th of August, we made our fourth annual visit to the grounds of Messrs. George Seymour & Co., at South Norwalk, Conn., where six acres are devoted exclusively to this plant, a part to fruiting, and a part to raising young plants for sale. A thorough examination of the vines and fruit, just beginning to ripen at that date, confirmed all we have previously said of it, and we are more strongly inclined than ever to recommend all our readers to procure at least a few of the plants to raise a future stock from, and even a larger number, that they may at the earliest date secure fruit for their own use, if not for market. As we moved to a new location in May of last year, we have not yet been able to get a large stock of bearing plants. About the 20th of May (too late in the season for good success), we set out a few plants, and on the small new shoots sent up last year, we have now enough of the fruit to show that they promise to do as well with us as at South Norwalk, at New-Rochelle where they originated, and at other points. Last Autumn we put out an additional number, which are now sending up large shoots for next year's fruiting. Some of them are already eight feet in height, and measure three-fourths of an inch to an inch in diameter at the base. It will be noticed by those unskilled in blackberry culture, that, like the raspberry, fruit is only produced upon canes of the previous Summer's growth. The plants can be set in Autumn or Spring, though we much prefer Autumn, as they get well rooted, and usually yield more new canes the following Summer than if not set until Spring.

The plants bear transplanting and carriage

* We call this the New-Rochelle or Lawton Blackberry, as both names are given to the same plant. It is occasionally called the Seacor, from Mr. Seacor, of New-Rochelle, who discovered the first specimen growing wild. When we first became acquainted with it, it was generally called the New-Rochelle, from the name of the town where it originated. The New-York Farmers' Club (so called), named it the Lawton, after Mr. Lawton, of New-Rochelle, who presented at the time some fine specimens of the berries, and gave a brief history of it, and of his own efforts in propagating and extending its culture. As we did not recognize the authority of the Club to change the name of the plant, and as no regular Horticulturist Society has examined the subject, or taken any definite action in reference to the name, we still, in justice to the several gentlemen engaged in its culture, continue to use the original name, "New-Rochelle," always adding the name Lawton, to prevent confusion or misconception.



well. Seymour & Co. inform us that they have sent large numbers to California, and to the distant Western and South-western States, and nearly all have lived and flourished well. The chief caution to be observed is, to have the ground ready prepared before opening the plants, and set them at once, without exposure to sun or wind. The same remark applies to raspberries, and, indeed, to all other plants. They appear, thus far, to grow well on almost any soil. Some recommend moist loam, or even clay. The best growth and fruiting we have seen is upon a rocky side hill, though perhaps not better than others on dark muck and peaty soil. We should not hesitate to put them upon any soil, except a very sandy one, or one subject to standing water. The stock of plants in the country is now so large that they can be obtained at a comparatively low price. They were first held at \$10 per dozen roots, but the past Spring they were offered at \$18 per hundred. We are not aware at this writing what will be the price this Fall, but probably before this number goes to press, advertisements giving information on this point will be received, and to these we refer our readers. The most economical mode of getting them will be for a few neighbors to club together and get a hundred or more at the wholesale price, and share the small expense of transportation. A hundred

will probably be taken to most of the Western States by an Express Company, for \$1 to \$2, according to the distance.

It is proper that we should say that in recommending this, or indeed any other plant, we have not the slightest selfish end to subserve. We have enjoyed the luxury of this fruit, and we should be glad to have every one of our readers do likewise.

We cannot promise that the plant will do as well elsewhere as in this section of the country; but if it does even *half* as well, it will be abundantly worth cultivating.

In the visit to South Norwalk, above referred to, we were accompanied by Dr. James Strong, S. T. D., who is, by the way, somewhat of an amateur in fruit culture, and after looking over the plantation and trying the fruit, he remarked: "The half has not been told of this plant. You cannot recommend it too strongly."

As a market crop, we think this blackberry would pay well. They are as easily cultivated as a corn crop, and need no second planting. Set them six to eight feet apart, and the only care required is to keep out weeds, and the excess of plants that continually spring up all over the ground if not kept cut down. Mulching the ground, that is, covering it over with a layer of straw or refuse hay, is useful. It would be well to work into the soil a good supply of yard ma-

nure before setting out the plants. On poor soil, an occasional top-dressing of manure may be given. The fruit *wholesales* in this city this year at 25 to 30 cents a quart, and retails at 37 to 50 cents. We have no doubt that the berries can be raised, on a large scale, profitably at 5 to 6 cents a quart, and there will always be an almost unlimited demand everywhere, at prices much above this. They have been profitably employed at 25 cents per quart, for making blackberry wine. We have tasted an excellent wine made by adding 12 quarts of water and a little sugar, to 6 quarts of juice obtained from 8 quarts of berries.

THE RASPBERRY.

This valuable fruit should be cultivated in every family garden. Raspberries follow the Strawberry, are excellent in flavor, and are esteemed healthful to people of all ages, children in particular. They are not only a delicious dessert after dinner, and a simple, convenient accompaniment to the tea-table, but they make a rich jam, or preserve. They furnish a choice *syrup* for mixing with water, thus making a grateful drink in hot weather; and in pies and puddings, they are always a luxury. They are simple in cultivation, and if of hardy kinds, give little trouble in tending. From 25 hills, 4 stalks in the hill, set out only last year, on a plot 12 by 20 feet, we gathered a daily family supply during over four weeks, the present year. They were not measured, but must have yielded one quart to a hill. The product will of course be larger hereafter.

The common black and red varieties of the fields, are very well in their way, but so full of seeds as to make them *woody* to the taste, and their small size is troublesome in serving them up, either for the table, or for cooking. Of the cultivated, or artificial varieties there are many. Yet those, for some reason or other, nearly all require Winter protection; that is, they have to be bent down and covered with earth, as standing out all Winter, either kills the canes outright, or so injures the buds as to prevent their bearing. Perhaps, for marketing, the *true* Red Antwerp is the best, but it requires such constant Winter protection, and in the process so many of the canes are broken in bending them down, that it is a serious injury. The new varieties which have been introduced within few years, by our painstaking cultivators, are many of them excellent, but they are seldom hardy, and require Winter protection. They have size and flavor to recommend them, and are well worthy of cultivation when properly managed.

As a market fruit, the chief difficulty with every kind of Raspberry, is their liability to crush in carriage. This is inherent in the fruit itself, from its being hollow. If they could be picked with the stem upon them, the difficulty would be obviated. But when ripe—and the fruit is not fit for picking before—the berry cleaves from the core, which remains on the cane, and thus, the flesh being soft, surrounding an open cavity, if packed in any quantity over a pint, is crushed, of course, and there is no way to help it. Consequently, all who can grow them in their own garden, should do so to have them in perfection.

We have seen in our late Summer travels, a Raspberry, so superior in some of its qualities that we have strong confidence in its cultivation as a domestic garden fruit—the “Allen” Raspberry, for ten years past cultivated by L. F. Allen Esq., in his farm gardens near Buffalo, where we saw them in great luxuriance and perfection. They are of the Red Antwerp family in appearance, both in wood and fruit, but are not the *true* Antwerp, being hardy as a currant bush without

Winter protection, and throwing up a stout, vigorous cane of six feet high and upwards in a good soil. The fruit is roundish, of full Antwerp size, prolific in bearing, bright red in color, and of delicious flavor. Where they originated, Mr. Allen, could not tell us. He obtained them in his own neighborhood, from a once choice garden, being broken up we believe, and took all the plants left in it. Neither are they in cultivation in his vicinity, excepting a few lately taken from his own plants. Finding them so valuable, he last year authorized his gardener to offer his surplus canes for sale, which he did to near ten thousand in number, and so much was a hardy, good flavored Raspberry demanded, that all plants which could be spared were taken in parcels from ten to a hundred each, and many of them sent into distant States. By reference to our advertising columns, our readers will see that they are again advertised for sale; and as Fall planting is best for the Raspberry, those desiring will have an opportunity of transferring this excellent variety into their own gardens.

STRAWBERRIES—CHAPTER VIII.

Some Practical Directions for Planting New Beds in September.

This month is a good time for making new Strawberry beds, and we propose to bring together here a few plain, practical directions on *preparing the ground, selecting plants, and setting them*, though this may require a partial repetition of some things previously written in this series of articles. But let us inquire who need these directions. Last year we proposed to our readers to help make up five thousand strawberry beds and a large number joined in the enterprise, as we have learned from time to time from themselves. This year we extend the proposal. What say you to the proposition, that the present readers of the *Agriculturist* form a Strawberry party, and make up this Fall thirty thousand beds among themselves? Or, allowing for those who have them already, and those who cannot attend to it, if there be such, let us strike this year for

TWENTY-FIVE THOUSAND STRAWBERRY BEDS!

These can just as well be secured as the same number of cabbage plots. And what greater luxury than a plot of improved Strawberries. Reader, did you ever eat a bowl-full of Longworth's Prolific, or Hovey's Seedling, or McAvoy's Superior? If you have not, you have not yet enjoyed the finest, the best luxury that the soil produces. The wildlings gathered from the field, or the best of any kind you can purchase in the market, are scarcely more like what you may pick fresh in your own gardens next season, than a turnip is like a peach. Try at least one small plot this year. The cost and trouble is far less than you imagine. With a very little care in the selection of kinds, and in the management of a bed, you may enjoy daily, for three or four weeks, “ripe, blushing Strawberries, eaten from the plate or served with sugar and cream.” *And the home cost need not exceed fifty cents to a dollar a bushel!* In “Our Basket” you will note that Mr. Scott, of Plainfield, actually produced a bushel to the square rod, and these sold at an average price of 26 cents per quart. But we desire *you* to raise them for your *own* enjoyment. And now to the way of doing it.

SELECTION AND PREPARATION OF THE SOIL.

Almost any good garden soil will answer. If possible, select the ground that is neither very light nor very heavy. A sandy or gravelly loam is about the best. If nothing better than a stiff

clay can be had, don't despair—only dig in plenty of half decomposed straw, or litter of some kind, or coat it with sand. Avoid a shady situation; the Strawberry does best in the open sun. Trench the soil, that is *dig* it, to the depth of eighteen inches or two feet. Put *at the bottom* plenty of barn-yard manure, well rotted, if you have it, if not use such as you have. Cow-dung is about the best for Strawberries. If the ground is in pretty good condition, the bottom manure is enough; if poor, dig in near the surface some *fine* rotted manure, or leaf mold, (rotten leaves,) or rotten wood. Lime, ashes, and a little salt, may be well mixed and added, if convenient. A moist soil will produce the finest fruit as to size, but it must not be *wet*.

SELECTION OF KINDS.

We will not here discuss the sexual character of the Strawberry. That has been done sufficiently already. We will only now remark that some *whole varieties*, (that is, *every* plant of some kinds,) are *imperfect*, and will not bear fruit unless planted in the vicinity of *perfect* kinds.

Other varieties are *perfect*, that is, every plant is complete, and does *not* require the presence of any other kind to make it productive.

We give the names of some of the most noted of each of these two classes, but do not wish to be understood that these are the only good kinds. There may be others really much better. We are not now writing for amateurs, but for those who may be but little acquainted, as yet, with the culture of the Strawberry, and we will only name such as we know have given satisfaction.

CLASS I.—PERFECT PLANTS—(having both stamens and pistils.)—*Not requiring any other kinds with them.*

<i>Longworth's Prolific,</i>	<i>Large Early Scarlet,</i>
<i>Boston Pine,</i>	<i>Iowa,</i>
<i>Hooker's Seedling,</i>	<i>Wilson's Albany,</i>
<i>Pcabody's Seedling.</i>	<i>Jenny Lind.</i>

CLASS II.—IMPERFECT PLANTS—Lacking the male organs (stamens,) and needing some other varieties with them.

<i>Hovey's Seedling,</i>	<i>Jenney's Seedling,</i>
<i>McAvoy's Superior,</i>	<i>Crimson Cone,</i>
<i>Monroe's Scarlet,</i>	<i>Burr's New Pine.</i>

The first of these two classes we will simply call *perfect*. The second, *imperfect*. Those belonging to the defective class must be planted in the vicinity of some of the perfect,—while the *perfect* may be planted alone. If you plant but one kind, it is evident that it must be of the *first* class of perfect plants. There will be an advantage in selecting from both classes, on account of having a succession of fruit. Of perfect plants, Longworth's Prolific, and the Large Early Scarlet, will ripen ten days earlier than any of those named in the imperfect class, while Hovey's Seedling and the Crimson Cone will continue as much later in bearing. If we were restricted to but one kind, we would choose Longworth's Prolific. If to two kinds, Longworth's Prolific and Hovey's Seedling. Where Longworth's Prolific cannot be had, the Large Early Scarlet may be selected. These varieties can now be obtained of nurserymen in almost any part of the country. They can, however, be brought from a long distance if necessary.

PROCESS OF PLANTING.

Care is necessary at this season of the year, in taking up the plants and preserving them from injury until they are securely placed in the ground. If they are only to be removed a short distance, the roots can be preserved from injury by simply covering them with earth or wet moss, *as soon as they have been raised out of the earth*. If to come from a distance, they should, on taking up, be immediately puddled by dipping the roots in a mud-hole made for this purpose. This mud adhering to the roots will keep them moist for sev-

eral days. Those ordering plants from a nursery, should be particular in directing this to be done.

Having the ground nicely prepared and the plants at hand, if you have plants of both classes, put them in separate beds. The beds may be side by side, or several feet or yards apart. One of the perfect plants will be enough to impregnate or render fruitful ten of the imperfect ones.

DISTANCE FROM PLANT TO PLANT.

If put out in beds, which in a garden is perhaps the best, the rows may be eighteen inches apart, and the plants twelve to fifteen inches from each other in the row. If planted in drills, let the rows be two feet apart and the plants one foot from each other. The only thing necessary in this process of setting out, is to put the roots only in their full depth, and to press the earth gently about them, care being taken not to bury the crowns below the surface. When set, water each plant, and cover the bed or drill lightly with some hay, or, what is better, some new-mown grass. This will keep the sun from burning the leaves, and prevent sudden evaporation of the moisture. In a week's time, the plants will be rooted, and need no further care, except to rake the spaces occasionally between the rows to keep down weeds and prevent the ground from baking.

On the approach of Winter, cover the plants lightly with some litter, straw or leaves. In the Spring, the only care after taking off the covering will be to keep the ground loose on the surface, and clean of weeds. In Strawberry culture the beds must be kept free of weeds. Not merely cleaning them occasionally, but keep them from getting foul. White clover, sorrel, and couch grass, are very troublesome, and if they once get a footing, they are sure to ruin the plantation.

A word to those who set out beds last Spring. If, as in nine out of ten cases, the plants have not been trimmed of their runners through the Summer, the beds are now a mass of plants, and, in some instances, we fear, full of weeds and grass. If such is the case, it is absolutely necessary to thin out the plants if it is an object to secure a good crop of fine fruit next Summer. Cut out with a small hoe the weakest, leaving only about ten or a dozen roots to a square yard. If the plants are not strong, a dressing with a compost of wood ashes, lime and salt, applied early next Spring will be of great use to them.

SPINACH.

Spinach, or spinage, may be sown during the early part of this month for fall, winter, and early spring use; the sowing may be continued at intervals up to at least the middle of the month. The quality of the spinach depends much upon the richness of the soil; the object should be to induce a rapid growth. Spread on and dig under a good coating of old barn-yard manure; the older the better. Sow the seed in drills about six inches apart; for the last sowing, intended to be kept over for early spring use, the drills may be only four inches apart. When the seed is well up, give the plants a hoeing, as well to destroy the weeds as to encourage a rapid growth. If the seed has been sown thickly, the plants will probably need thinning out. On the approach of cold weather, cover the beds intended to be kept over winter with hay or straw. This covering is not indispensable, but its advantages are sufficiently great to warrant the trouble. The plants are not so liable to be thrown out by frost; the tops are less injured by extreme changes in the weather; and an earlier growth takes place in the spring. As to kinds, the broad-leaved Savoy is probably the best.



KOHL RABI.

This is an odd name to many, though not more so than was ru-ta-baga only a few years since. But whatever may be thought of the name, the thing itself is excellent. With us it takes the place of both cabbages and turnips, and is decidedly superior to either of those articles—to our taste and digestion. Several subscribers have enquired "what it's like?" "how it's grown?" "how it's cooked?" "how it tastes?" *Answer.*—Kohl rabi is a kind of turnip cabbage—a cross between the two. Imagine a short cabbage stalk with a round turnip upon the top of it, and about a dozen small, long-stemmed leaves growing out from as many points of the turnip, and you have an idea of "what it's like." It may be grown precisely like a turnip, and quite as easily. If wanted early, start the plants in a hot-bed, and transfer them to the open ground as soon as danger of frost is past. It grows faster than cabbages and is even more hardy. We sowed seed in the open ground where they were to grow without transplanting, on the 8th day of last May, and commenced cooking on the 1st of August. The heads are (Aug. 15th) from three to seven inches in diameter. We present above an exact drawing of one four inches in diameter taken from our garden this morning. To cook them we sever the heads from the stalk, remove the leaves, cut into quarters, or into six or eight pieces, according to the size of the head, and boil in water until cooked through, which may be known by trying them with a fork. They are served up with drawn butter, or cream gravy, similarly to turnips. They are sweeter than cabbage, and more tender and less strong to the taste than most varieties of turnips. We find them more agreeable and far more digestible than either cabbages or turnips. We shall obtain a supply of the best seed we can get, and offer it in our next Annual Distribution.

ANNUALS FOR WINTER BLOOMING.

There are a number of annuals of much beauty, which, with a little care, will bloom almost constantly during the Winter months. A flower of any kind in the Winter is a sight to gladden the heart, and does much to divert the mind from the dreary scene without, and tends to reconcile us to the inclement season. The green-house is in no small measure indebted to annuals for its cheerful aspect during the winter; and they are also peculiarly suited to adorn the sitting room or parlor.

We herewith present a list of the choicest kinds for Winter blooming: Sweet Alyssum, Mignonette, Drummond's Phlox, Nemophila or Love Grove, Lobelia, (*gracilis* and *ramosa*.) Clarkia, (*nerifolia* is best,) Schizanthus, Double Purple Jacobea, Candytuft, Blue Ageratum, Clintonia, Ice Plant, (curious and interesting,) great flowering Whitlavia. A few more might be added to the list, but the above presents every thing needful in diversity of form and color. The seed, at this period of the year, should be sown in rich mold in

pots. The pots may be plunged to the rim in the open border, which will save some trouble in frequent watering. The smaller seeds should be sown quite shallow, and none of the above more than an eighth of an inch. On the approach of frost the pots must be removed to the house. Many of the kinds will be large enough to transplant. This is done by inverting the pot, and knocking gently the rim, when the whole will come out entire. A slight pressure will crumble the ball of earth to pieces, and the young plants can be readily separated, and put in small pots. Let transplanting be done as soon as two or three leaves are formed. Some kinds should have only one plant in each pot, while others may have several. Among the first named are Clarkia, Schizanthus, Drummond's Phlox, Nemophila, Jacobea, Ageratum, Ice Plant, Whitlavia; the others may have one or more. The plants should be shaded for a few days, and then placed near the glass. If it is intended to grow them in a room, one having a southern exposure is best. The plants should be placed near the glass, and the pots turned occasionally, to preserve a uniform growth. As soon as the small pots have become filled with roots, a shift should be made to larger ones, and the repotting repeated from time to time as the plants progress in growth, not, however, going beyond pots five or six inches in diameter. The operation of repotting, however, being a nice one, the young amateur may shift his plants from the small to the large sized pot at once, and thus confine his repotting to one operation. The tall growing plants must be neatly tied to stakes; the others may be left to hang over the side of the pot. The Lobelia and Nemophila should be suspended by a strong cord or wire, as they will hang down a yard or more.

Watering must be attended to regularly. When pot plants get too dry and suffer for water, the foliage turns brown and frequently drops off. The other extreme of giving too much water should be avoided; but if plenty of drainage is put in the bottom of the pots, this will rarely be the case. We have grown Winter flowering annuals for many years, and have found them of comparatively little trouble; their generous bloom has been a source of much enjoyment, and there are many plants in the green-house that we could sooner part with than with our cherished annuals. They should be more generally cultivated, especially by amateurs, and by those who would render cheerful what otherwise is too often a gloomy period, during which we long for some green object to rest the eye upon.

For the American Agriculturist.

HOUSE-KEEPING IN THE COUNTRY.—NO. II.

Is the list so long? Meat that will not keep, bread that will mold, butter always soft, scarce vegetables, skim milk and stale eggs, the very articles that you imagined sprang up spontaneously good everywhere "in the country." Is the butcher an unknown institution? or have you one who reigns tyrant over the neighborhood, granting you now and then, of grace, a whole quarter, which you cannot possibly eat before it spoils? And last, worst of all, the flies, flies, flies!

I remember a friend of mine once summed up her experience in these words: "I could be happy but for servants that won't work, and preserves that will." Of course, she lived in the country.

You will be glad to know that there are remedies for nearly all these troubles, could one only find them out; but for some of them, it will be necessary to go back to the very foundation of your house-keeping, viz., the house itself.

Comfort and convenience *ought not* to be sacrificed to show in the city; but in the country, they *must not*. There are some things about a house, which are worth all the carved rose-wood and gilt hangings in the world, for they are absolutely indispensable to your living with comfort, elegance or economy.

In the city, where you can buy your stores as you need them, it matters little where you keep them; but where you may provide each day something which you will eat for dinner six months hence, it makes a great difference indeed.

Without a dry, cool cellar, convenient pantries and closets, an ice-house, or its best substitute, you cannot expect any satisfaction or comfort, unless your talents for management and contrivance are extraordinary indeed. Nor should these additions to a house be over-ruled on the score of economy. The price of one carved arm-chair will build an ice-house, and the interest on the cost of a set of lace curtains will fill it every year. It cannot be so great a trial to a house-keeper to live in a house furnished ever so simply, as it is to endure such constant waste, confusion and annoyance in the kitchen department. I have seen some things in my time.

A good ice-house is the greatest of luxuries; so great, that I would say to those of competent fortune, have it at any cost: but if it is impracticable, and you cannot depend upon your cellar, a spring-house or well-house will serve as a tolerably good substitute, costing as much to build, but nothing to fill. I suppose everybody knows what a spring-house is? A well-house is for those who have no spring, and is built in the same manner, of brick or stone, with a paved floor, and a channel through which runs the water from the pump. The channel must be shallow enough to stand the milk-pans in, and if the building is shaded and kept dark, it will keep milk and butter very cool and fresh. If you have a good drainage, such an arrangement could be easily made in the cellar.

A well-box is another substitute for an ice-house on a small scale. With four or five strong nails firmly driven in the side, and as many ropes, you may have butter, yeast, fruit, meat, and the cream-kettle all swinging in it at once, as we have had many a time. Butter that has "come hard" will stay as hard in it as in ice. There are few cellars in which bread and flour will not mold in warm weather. They should be kept in a dry place on the ground floor, the first wrapped in a cloth, or in a tin box, the other in a wooden bin.

Preserves, if made rightly, will never ferment in a closet on the north side of the house. Of course, it ought not to be next a chimney, where a fire is kept up.

Your cellar should be either paved, or lined and sanded through its whole extent; the milk-cellar partitioned off, white-washed, well aired, darkened most of the day, and as clean as hands can make it. You may think, perhaps, that to those who keep but one cow, and make only butter for the family, all this care will not be necessary. In fact, it is rather more so; for it is needful to turn a little to the utmost advantage.

I have mentioned these things, not so much as directions for preserving stores, for you can find these in any domestic receipt book, but as hints to those intending to build or buy in the country what conveniences they should make sure of securing.

Without these, you may dwell in the most picturesque of Gothic cottages; your columns may be wreathed with ever-blooming roses, and your windows overlook the Vale of Arcadia itself, but Contentment will never nestle under your vines, or Peace make her home in your bosom.

WINDHOLME, Pa., July 18, 1857. EMILY.

CHAPTERS ON COOKING, &c.

"JOHNNY CAKE" COOKED BY STEAM.

We brought home from "out West," a recipe for cooking corn meal, which is preferable to the old-fashioned Johnny-cake—that is to our liking. The "Ediress" has tried it several times, and it is "universally liked," that is, in one family. It's very simple, and plenty of good housewives will exclaim, "la suz! that's nothing new; we knew it long ago." Well, probably you did, but we did not, and we suspect there are at least a few other readers of the *Agriculturist* like ourselves. And so we might say of a hundred other recipes which we publish from time to time

Directions.—To one pint of sour cream, add one teaspoonful of soda, and one of salt, and stir in a handful of wheat flour mixed with corn meal enough to make a stiff batter. Put it into a tin basin; set this into a bread steamer and keep the steam up for one hour, more or less, according to the size of the cake—the longer the better, however. Set this on the table with cream and sugar, by the side of pound cake, and your crustless Johnny-cake will disappear first. *Mem.* If you have not a cow to furnish the cream, then make the Johnny-cake in any way you choose, but *bake* it in the steamer instead of an oven. If you have no regular steamer, put a deep tin-basin, upside down, in the bottom of an iron kettle partly filled with water, and upon this set your basin of batter and cover the kettle. *Query?* Why would not any kind of cake be better if cooked by surrounding it with steam. This secures a uniform heat and saves hard crusts, to say nothing of the quality of the food. We know biscuits are nice thus baked.

GREEN CORN CAKE.

This has been one of our August luxuries, and it will be in season all through September. It may be made of green sweet corn, or of any other kind; the sweet varieties are best. Husk as many ears as may be desired, and without boiling them grate off the corn. Stir into this about two tablespoonfuls of flour for every dozen ears, and also one egg, previously well beaten. Add a little salt, and a very little sugar, if the corn be sweet, if not sweet, add about two tablespoonfuls to the dozen ears. Let the whole be well stirred, and bake it in a greased tin basin, or tin pan, for a full hour, in a hot oven. It is good without any dressing, but may be eaten with butter, or cream, &c.

AN EXCELLENT GINGERBREAD.

A friend on whom we recently called, treated us to a nice slice of gingerbread, which was made after a little different recipe from any we have published, we believe; to wit: Take one pint of molasses, one teacupful of butter, half a teacupful of hot water, one teaspoonful of soda, half a teacupful of pulverized alum dissolved in a little water, two tablespoonfuls of ginger; the whole mixed thoroughly with enough flour to roll out and cut into cards. Bake in a quick oven. *Mem.* The mixing should be done rapidly and not until the oven is already hot, so that the baking can be done at once and quickly.

WATERMELON PRESERVES.

Remove the rind and seeds of watermelons, not fully ripe, and cut them into slices about half an inch in thickness. Scald these in weak alum water which will toughen them, and give them a nice green color. Next rinse in cold water and lay on platters to cool. To seven pounds of the melons thus prepared, take six pounds of sugar. Add water enough to the sugar to make a thick syrup and boil it, skimming it if brown sugar is used. Cook the melons in the syrup until well

done. Then remove them and pack in jars, laying in two sliced lemons for each seven pounds of melons; next boil the syrup some 15 or 20 minutes or until thick and pour it in. Keep in close jars.

CITRON FOR CAKE.

Take citrons and treat them exactly as described above for watermelons, but instead of closing the jars, leave them open. The mass will dry down and furnish a material for fruit cake far cheaper, and just about as good as the best preserved West India citron sold in the market.

HARD GINGERBREAD—INDIAN BREAKFAST CAKE—MOTHER'S SPONGE CAKE—ENGLISH PUDDING.

Mr. L. W. Nichols, of Concord, N. H., sends for the readers of the *American Agriculturist*, the following four recipes, with the remark that "we have proved them. If other readers will contribute in like manner it will benefit us all."

Hard Gingerbread.—Take $1\frac{1}{2}$ cups sugar; $\frac{1}{2}$ cup butter; $\frac{1}{2}$ cup sweet milk; $\frac{1}{2}$ teaspoonful of soda and 1 of cream of tartar; 1 egg, and ginger to suit taste, or cinnamon and nutmeg may take the place of ginger. Knead in flour to make a very hard dough and roll to thickness of pie-crust. With white granulated sugar, an extra nice cake is produced.

Indian Breakfast Cake.—Mix well 2 cups Indian meal; $\frac{1}{2}$ cup flour; 1 teaspoonful salt; 3 tablespoonfuls sugar or molasses. Dissolve alone in a little hot water, a heaping teaspoonful of soda; add to it 5 teaspoonfuls of melted lard, and put this into the other materials already mixed, adding cold water enough to make the whole a little thicker than fritters. Just before pouring into the pan for baking, stir in 3 teaspoonfuls of vinegar, put at once into the oven and bake quickly. This is pronounced extra by all who have partaken of it.

Mother's Sponge Cake.—Mix well: 2 cups flour; 1 cup sugar; $\frac{1}{2}$ cup milk; 2 eggs previously well beaten; 1 teaspoonful cream of tartar and $\frac{1}{2}$ teaspoonful of soda. Flavor with rose water, nutmeg, vanilla, and cinnamon to suit taste.

English Pudding.—Mix: 1 quart flour; 2 cups milk; 2 cups molasses; 3 well beaten eggs; 1 pound raisins; 1 pound suet; 2 teaspoonfuls of cream of tartar, and 1 teaspoonful of soda. Steam 4 hours, which may be done by putting it into a covered tin pail, and setting it into a kettle of boiling water. Be careful not to let the water boil out of the kettle. A farina pail is the best for this purpose.

[The ginger pudding recipe sent with above did not state the amount of flour, mode of baking &c.. In printing "recipes" we prefer to give all particulars—always going upon the supposition that the reader is a 'bachelor' just taking lessons, and therefore needing to have the whole operation described minutely. This may be tedious to experienced housewives, but will, on the whole, most benefit those needing aid.—ED.]

To the Editor of the *American Agriculturist*.

HAMS.—An excellent way to keep bacon hams through the Summer, is to put on them a coat of molasses, made thick with ground black and red pepper; then hang up in a dry cool place.

NEW HOUSEKEEPER.

ANOTHER.—Pack them in boxes, putting a layer of dry leached ashes, and some sticks, chips, or eobs between each layer, to keep them from touching. Keep it in a dry cool place, off the ground.

OLD HOUSEKEEPER.

(To be Continued.)

If no sin were punished here, no Providence would be believed; if every sin were punished here, no judgment would be expected.

"Thou rain'st in this bosom," as the chap said when a basin of water was thrown over him by the lady he was serenading.

Small Type.—The remaining pages are not set in smaller type because less important than the preceding, but to make room for more matter in the same space.

FOR THE BOYS AND GIRLS ONLY.

ANSWERS TO PROBLEMS.

As stated in our last, a great number of answers were received. These letters we have looked over, and sorted out all having correct answers. A good many sent in fine drawings of the apple-trees themselves, all arranged in rows, and we did intend to have them engraved just as drawn, but finding it would take too much room, we have simply put down dots in place of trees. We do not think orchard trees set in these forms would be well arranged, but it has certainly set the boys and girls to using the pencil, and studying geometrical figures not a little, and on the whole we consider the time spent over them far from being thrown away. It will be seen that more than one answer is given to each question.

PROBLEM III—10 Trees ; 5 rows, with 4 trees in each.

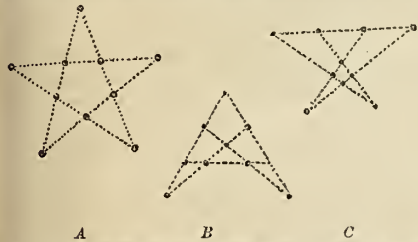


Fig. A.—Was sent in by Josiah Allen, Ohio; "Young One," Bloomfield; Sam'l. J. Beatty, Penn.; B. L. Pratt, Ohio; E. W. Holbrook, Vermont; S. S. Stillson, Ill.; Walter A. Carpenter, Min. Ter.; Jas. R. Dowling, Ohio; Emma P. Fooks, Md. (12 years old); J. R. Clark, Ohio; Henry A. Simpson, Ill.; O. W. D.

Fig. B.—By Merritt Chandler, Mich; "Fourteen," Auburn, New-Hampshire.

Fig. C.—By Harriet L. Kinch, New-Jersey.

PROB. IV.—12 Trees ; 6 rows, with 4 trees in each.

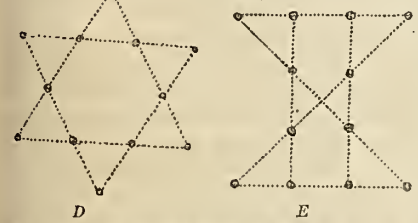


Fig. D.—By the same persons that sent in fig. A, except E. W. Holbrook. Also by "Peggie" and "Annie," Aecomae, Va.

Fig. E.—By A. Cushman, Boston; Laura J. Thomas, Ct.

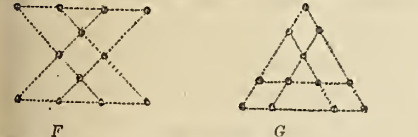


Fig. F.—By Harriet L. Kinch, New-Jersey.

Fig. G.—By Merritt Chandler, Mich.



Fig. H.—By E. W. Holbrook, Vermont; and Harriet L. Kinch, New-Jersey. (Second solution.)

Fig. I.—By "Fourteen" New-Hampshire.

PROB. V.—19 Trees ; 9 rows, with 5 in each.

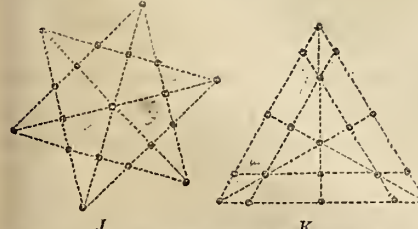


Fig. J.—By the same as fig. A, except John R. Clark,

and "Young one." Fig. J, was also sent by "Fourteen," Harriet L. Kinch; E. W. Holbrook; "Peggie" and "Annie."

Fig. K—By Merritt Chandler, of Adrian; Harriet L. Kinch, of Westfield.

PROB. VI.—27 Trees ; 9 rows, with 6 in each.

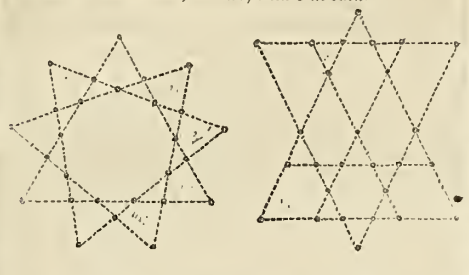


Fig. L—By Josiah Allen, Ohio; Sam'l. J. Beatty, Pa.; B. L. Pratt, Ohio; Walter A. Chapman, Rosemount; Emma P. Fooks, Salisbury; Harriet L. Kinch; "Peggie" and "Annie," Va.

Fig. M—By O. W. D. (name and residence lost.) All your figures neatly drawn, and shaded to show not only the trees but the ground also.

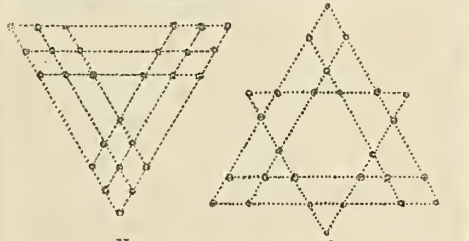


Fig. N—By Jas. R. Dowling, Marietta.

Fig. O—By Merritt Chandler, Michigan.

Master "Fourteen" of Auburn, N. H., sent a pretty and ingenious drawing which gave more than asked for, viz: 27 trees and ten rows with 6 in each row. Can any one else do this?

"Granite State," of Great Falls, N. H. We are not certain which problems are yours, as the accompanying slip got "mixed up" with others. D. W. G., of Bradford Co., Pa., your figures for problem D, 3, 4 and 6, are right, but the trees are not in the right position, and not in straight rows.

The above are we believe, all the correct answers received up to August 15th. A great number of other fine drawings were sent to us, but on examination they proved to be incorrect. E. W. Holbrook, adds a bit of rhyme at the end of his problems, which, with a little correcting reads thus:

"My Dear Mr. Nurseryman, here are your trees:
So credit my geometry, sir, if you please;
But placing them in rows of 5, 6, 9 and 8,
I see I have failed to get them all straight.
Yet if your soil be good, I'm sure they will bear,
And in the due season, I will call for a share."

Additional correct answers to problems I and 2 have been received from D. M., and C. H. jr.

NEW PROBLEMS.

PROB. 7.—To plant 16 trees in 10 rows with four in each row. This will give a practicable orchard—it was sent by "Peggie and Annie," Va.

PROB. 8.—There is a hole in the barn floor just two feet in width, and twelve in length. How can it be entirely covered with a board 3 feet wide and 8 feet long, by cutting the board only once in two. (Very similar questions to No. 8, have been sent in by quite a number of boys and girls.)

PROB. 9.—(Not new) What 6 weights will answer to weigh any number from 1 to 360.

"Plowboy's" question is not clearly expressed.

Well young friends we have printed a few more problems out of many sent to us. We do not wish to carry the matter too far. Can you not write on other topics? Your cows, horses, pigs, &c.; your plants both in and out of doors. Very soon we shall add more pages to each number of this paper, and then we can give you at least a page if you will help make it interesting and useful.—Ed.

The Bridle.

"Don't go without a bridle, boys," was my grandfather's favorite advice.

Do you suppose we were all teamsters or horse jockeys? No such thing.

If he heard one cursing and swearing, or giving too much vain and foolish talk, "That man has lost his bridle," he would say. Without a bridle, the tongue, though a little member, "boasteth great things." It is "an unruly member, full of deadly poison." Put a bridle on, and

it is one of the best servants that the body and soul have. "I will keep my mouth with a bridle," said King David, and who can do better than follow his example.

When my grandfather saw a man drinking and earousing, or a boy spending all his money for eakes and eandy, "Poor fellow," he would say, "he's left off his bridle." The appetite needs reingring; let it loose, and it will run you to gluttony, drunkenness and all sorts of disorders. Be sure and keep a bridle on your appetites; dont let them be master. And don't neglect to have one for your passions. They go mad if they get unmanageable, driving you down a blind and headlong course to ruin. Keep the cheek-rein tight; don't let it slip; hold it steady. Never go without your bridle, boys.

That was the bridle my grandfather meant, the bridle of self-government. Parents try to restrain and check their children, and you can generally tell by their behavior what children have such wise and faithful parents. But parents cannot do everything. And some children have no parents to care for them.

Every boy must have his own bridle, and every girl must have hers; they must learn to cheek and govern themselves. Self-government is the most difficult, and the most important government in the world. It becomes easier every day, if you practice it with steady and resolute will. It is the fountain of excellence. It is the cutting and pruning which makes the noble and vigorous tree of character.

OUR BASKET

Into which are thrown all sorts of paragraphs—such as . NOTES and REPLIES to CORRESPONDENTS, with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources. The printers always have access to this Basket when they "have nothing else to do."

Too Late!—Since the "Basket" was filled to overflowing, which happened about August 10, letters have come in "thick and fast" on all topics. These must go over. Will it not be just as easy for our correspondents to send in their favors at the beginning of the month, and thus give time to allot them out to the associate editors, and have them well attended to. A majority wait until the 10th, 15th or 20th, before mailing a letter designed for notice the next month.

Crop Prospects.—A multitude of correspondents in various parts of the country have kindly furnished us with notes on the condition and prospects of crops in their several localities. These, from their number, cannot be printed, nor even referred to by name, but they are none the less valuable—and we return our thanks for them—as they materially assist us in making up our market reports and in forming a general estimate of the agricultural condition of the country.

Farm Buildings.—Several communications have been received on this topic, and many readers, equally with ourselves, have greatly desired to have this subject discussed in a series of articles. We will simply say that we have for a long time hoped to secure the aid of a gentleman who can, perhaps, treat this subject more ably than any other practical writer in the country. He now informs us that owing to the time required to get up necessary drawings and engravings, he may not be able to commence the articles before the Winter months, but will do so at the earliest period possible. We prefer to leave the whole subject in his hands.

Curculio.—Jno. Fultz, Juniata Co., Penn. We would most gladly give you a remedy for the Curculio if we could. This little pest has puzzled the most experienced fruit growers thus far. Daily jarring the trees for some weeks, or until the insect ceases its attacks upon the fruit,—catching the insects upon a sheet and destroying them,—has been the only remedy generally practicable thus far. Planting the trees by the water's edge, and leaning over it, has proved effectual, as the insects will not lay their eggs where their offspring, in the falling fruit, is sure to be destroyed. Hogs and poultry kept under the trees to pick up all falling fruit, have greatly lessened the multiplication and ravages of the insect.

Strawberry Plot.—Samuel Scott, of Plainfield, N. J., has a plot of 8 square rods and 20 feet, (not 8 rods square), from which he has picked this season 222 quarts of berries. This is two quarts less than 7 bushels, and he thinks one bushel was injured by wet weather. The average yield he puts at one bushel to the square rod. Most of the plants were Hovey's Seedlings, next Moya-mensing, with a few of Hudson's Large Early Scarlet, and Burr's New Pine. He says: "The berries were quite large, though none so large as some I read of. However, I picked and sold many quarts where the berries measured 3 to 4 1/2 inches round. I sold from my plot 139 quarts, for \$36 09, averaging 26c. per quart. For 2 quarts I received \$1 50, and many single quarts brought 50c., the

lowest price being 18c., at the same time that what were called good berries went at 12c. to 15c. per quart in this market. I could have sold many times more berries at my highest rates if I had them. I prepared my plot by trenching it 25 to 30 inches deep, working into the bottom rotten leaves, corn-stalks and green weeds, and mixing with the earth, chip manure and scrapings from road-side gutters. A top-dressing of ashes was used."

Salt Barrels for Apples.—Mr. C. W. Cook, of Waterloo, states that he purchased five barrels of apples from one pile and placed them in the cellar in barrels, one of which was an empty Syracuse salt barrel. In this barrel the apples were sound and fresh on the 1st of April, while in the other four they were mostly all damaged. A hint worth remembering.

Education of Farmers' Sons.—H. Gifford of Oneonta, inclosing a renewal of subscription, writes: ".... I am but a boy, but feel as did the King of Sparta, when on being asked 'what things he thought boys ought to learn,' he replied: 'Those things they are to practice when they become men.' Farmers do not follow this counsel, since they select the best timber among their sons for the learned professions, but compel the others to a sojourn of a few brief Winters at the district school, and then to graduate at the tail of the plow.... When young farmers pursue their avocation with the same mental discipline, and with the same perseverance, energy and pride, as the professional man, then, and not till then, will the waste places literally become fruitful, and the deserts blossom as the rose."

Hot Houses.—How to Build, Heat, Ventilate, &c.—By ROBERT B. LEUCHARS. SAXTON & Co., Publishers. Price—\$1.25. This work has been before the public some years. It contains much information on the special subjects of which it treats, and will be useful to those contemplating or constructing Hot and Green Houses, Conservatories and Graperies. For a practical work it devotes too much space to the discussions of the principles of Chemistry, heat, &c. For those persons indicated above it is, perhaps, best as it is, but a selection of one-half of its pages leaving out the preface and introduction, and a part of the rhetoric and minute details of science, would make a more popular work for the masses.

Draining.—R. W. Arnold, Essex Co., N. Y. In the absence of abundant stone, drain tiles are doubtless best in almost any soil. We know of none manufactured nearer you than Albany. See Advertisement. "Munn's Land Drainer," though not so good a book on this subject as is needed in this country, is the best and only one published here. It is, however, worth its cost, 50 cents.

Going West.—"New England," of Litchfield Co., Conn., writes more at length upon this topic than we can give space for. His conclusions are, after residing upon a New England farm for fifty years, during which time he has traveled over the West and Northwest, that there are far more really poor farmers among those who have left their Eastern homes for the West, than there are among those remaining. He thinks many err in their estimates of the value of farms in the populous regions of the East, with good buildings, fruit trees, roads, schools, churches, &c., as compared with the wilderness of the West, even when the land is taken at Government price.

"New England" is partly right and partly not so, for there are many fine openings for young farmers at the West. If having a capital, we should, perhaps, go to the Valley of the Great Miami River, in Ohio, or to some other place just like it. With a small capital, we would go to Central, or South Central Illinois.

Superphosphate.—M. S. D., Poughkeepsie. We agree with you that some articles sold as superphosphates of lime are "good stuff." Unburned bones dissolved produce a good manure, but a majority of superphosphates sold in market are burned bones (nearly valueless) dissolved in sulphuric acid. To this is added a little guano or some other organic material which gives the chief value. We hold that the same materials can be procured cheaper than to buy them in most of the manufactured articles sold as superphosphates.

Hen Manure—Guano.—John S. King, Portage Co., Ohio. For ultimate effect the dried hen manure will be almost as valuable as the same weight of guano. For immediate effect the guano being in a more advanced state of decay would be much more active than the poultry droppings. The comparison between hen manure and horse manure could not be made with accuracy without an analysis in each case. There is a wide difference between fresh stable manure and that which has been fermented a few days or weeks.

Manure Spreading on Grass Land.—B. H. Spaulding, of Cavendish, wishes to know the best time for this operation. October is considered the best month.

Rye in Pa.—Mr. C. Thomas, of Shohola, Pa., cut this year 9,999 large sheaves of Rye from 40 acres, estimated to yield about a bushel to 14 sheaves.

Millet—Egyptian Wheat.—Jno W. Ladd, of East Orange, O., sends us a sample of seed, furnished, he says, to his brother-in-law, Joel Wyther, of Wyandott City, Kansas, by Gen. Whitfield, as Egyptian Wheat from the Patent Office. We have examined the specimen, and cannot see that it differs from the common Millet, and, therefore, think the kind offer of our correspondent to furnish samples to his brother *Agriculturist* readers will scarcely be worth the trouble.

Moon's Influence.—Warren Winchester, of Allegheny Co. We agree with you exactly. This plauting, sowing, making soap, killing animals, castrating, &c., &c., by the stage of the moon, or the "signs" in the almanac, is contrary to science and reason—it's all moonshine, or "gammon" as you term it, and on a par with the superstitious dread of comets, &c. Plant when the ground is ready and the weather right, and so of other matters. The moon will not interfere, but "keep right on" in its course.

Root Grafted Trees.—J. A. Bailey, Canada West, asks our opinion of apple trees grafted upon small pieces of roots. If the roots are complete—that is, each one the whole bottom of a small tree—grafting them may answer pretty well, although they do not make as straight, handsome growth as budded trees. We would by no means graft small roots from larger trees. Extensive experience in this line leads us to condemn the practice.

Whortleberry.—A. F., Massillon, O.—The whortleberry improves both in size and flavor by cultivation. This has been sufficiently proved in Massachusetts, where they have been grown for market purposes nearly twice as large as the ordinary wild varieties, and of a rich juicy flavor. A comparatively light and dry soil suits them best.

Wild Black Cherry.—Andrew Shaw, of Huron Co., Mich., asks what kind of fruit can be grafted on the Wild Black Cherry. We know of nothing, save the improved varieties of this cherry. Some are much larger and sweeter than others, and may be engrafted to advantage. We have repeatedly seen the tame cherry grafted upon the wild stock, but never knew it to succeed so as to be of any profit. The stocks are not sufficiently allied to each other for a successful union and future growth.

Vetches, Vernal Grass, and Soule's Wheat.—J. A. Russel, Granville Co., N. C.—Neither the Spring nor Winter Vetch is raised to much extent in this country. Our seasons are not as favorable as the moist climate of England. We should like to see more experiments with this forage crop. Sweet-scented Vernal Grass will doubtless succeed in your locality. It is coming into favor in many places. Soule's Wheat is a white, beardless variety, for Fall sowing.

Wheat Insects.—J. Frazier, of Ohio, and others, will find a reference to their inquiries in the wheat article on page 197. More information is greatly needed. The "cause and cure" of these insects, like those of the potato rot, the curculio, the cholera, &c., are yet involved in obscurity.

Okra and Oyster Plant.—H. B. Ingham, of Chillicothe, will find directions for using the Vegetable Oyster, on page 31 of this volume (Feb. number). We prefer leaving most of them in the ground till Spring. Pick the pods of Okra while they are young and tender, say from two to three inches in length, and boil with soup; or they may be stewed, and served with butter.

King Philip Corn.—H. B. Ingham, of Ross Co., O., writes, he had good roasting ears from seed sent by us, in just nine weeks from planting. At the same date (August 14) the sugar cane was full ten feet high.

Books on Nurseries.—J. A. B., of C. W.—You will find good books on this topic, in "Downing's Fruits and Fruit Trees of America," a very good work, price \$1.50; Barry's "Fruit Garden," price \$1.25, and Thomas' "American Fruit Culturist," price \$1.25.

Wheat Soil in Missouri.—J. M. F., of Dade Co., Mo., says Wheat fails in Spring, on a soil producing good corn, oats, fruit, &c., and asks why. From the brief description that it is "land of a dark appearance," we cannot judge of the cause of failure. If it be a light vegetable or muck soil, it is quite probable that it is not firm enough to protect the roots in Winter. If there be heavy soil below, bringing a portion of this up by deep plowing would improve the surface for wheat. A coat of lime will probably benefit it. Deep plowing would also remedy its "dryness."

Wild Pepper Grass.—James Mitchell, of Clarke Co., Pa.—The seed and specimen of "Wild Flax" forwarded, on examination prove to be the "*Lepidium virginicum*," or "wild pepper grass," a very troublesome weed over a wide extent of our country. Clean tillage, with hoed crops, is the surest way of killing it; after which, use no foul seed. The fibre of this plant is not sufficiently firm for manufacturing purposes.

Dissolving Bones.—An article soon.

Agricultural Premiums.—A large number Agricultural Societies have offered this Journal in the premium lists. We notice over two hundred offered the Armstrong County Society (Pa.). Were we not supposed to be interested, we should say that this is one of the best possible plans for disseminating information—a awakening an interest among farmers.

Grape-Rot.—E. Kohler, Lehigh Co., Pa.—You know no way to stop the rot in your Grapes, now that the disease is progressing. The abundance of rain, a lack of sufficient drainage, are the probable causes. Unless the vine is planted on a side hill, or on gravelly soil with a good natural drainage, the ground should be dug out, and stones placed at the bottom, with a drain running from the borders, or the berries are very liable to rot. Send the odd change in Post-Office Stamps.

Hardy Grapes.—Mr. Hasbrouck, of Ogdensburg, N. Y., states that the Isabella Grape is killed there, and inquires for a hardier substitute. This question is fully answered at page 158 (July number). The "Concord" will probably best meet the wants of your locality. The Clinton is perfectly hardy, but less delicious.

Cranberries.—E. H. Loper, De Kalb Co., Ill.—The Cranberry will probably succeed in your locality. Plants are not obtained from salt marshes, as you suppose, but from low grounds, partially covered with fresh water. Directions for propagating were given in the June number, page 130.

The Honey Crop.—M. Quinby, of St. Johnsville, N. Y., wrote us Aug. 6 that all the good weather for bees this year, was between the 4th and 25th of July; and the honey crop will be short in consequence, there being very little of the first quality made. The amount of second quality will depend upon the buckwheat crop and the weather.

Map of Matrimony.—Received from G. E. Kelsey, of Conn. As you say—hardly "agricultural enough for discussion here."

P. O. Stamps for Odd Change.—Fractional parts of a dollar are best sent in Postage Stamps; 3-cent are far preferable to 10-cent stamps, the latter being difficult to use or dispose of. Always put them in dry, or they often get spoiled by sticking to the paper or ink.

Stop Thief!

We direct special attention to the advertisement of a horse thief. Any one nabbing the rascal will secure a valuable reward, and confer a benefit upon the community.

Business Notices.

Fifty Cents a Line.

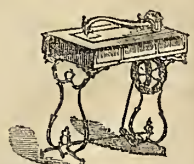
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From abroad visiting New-York or Boston, can now secure the sale of GROVER & BAKER'S SEWING MACHINES in their several localities, with great profit to themselves and advantage to their customers.

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18 Summer-street, Boston.
730 Chestnut-street, Philadelphia:
67 Fourth-street, St. Louis, Mo.

Bulbous Flowers.

An article on this topic is being prepared for the next number. A few of the early blooming bulbous roots may be put out in September, such as Crocus, Snow-drops, Tithonia, Hyacinth, &c. These can, however, be planted with the general assortment in October.

Hedges—Buckthorn—Thorn Locust.

W. F. B., of Ashfield, questions the correctness of our statement in the May number, that Buckthorn is offensive to cattle and mice. He says he has some fifty plants in a pasture, which cattle browse as much as they do other bushes. Is Mr. B. sure that his plants are genuine buckthorn? Our original statement was based on good authority. We see buckthorn hedges often in this vicinity on the line of roads where cattle roam at large, and they are left untouched. Their vigorous growth shows, that mice do not gnaw their roots. Mr. Downing says, unqualifiedly: "Cattle will not browse upon the buckthorn." Another experienced hedge grower says: "Its bark and berries are powerful cathartics." Mr. J. D., a noted nurseryman, of New Jersey, speaks of "its spongy nature to depredators on its stems or leaves." We must conclude that Mr. B.'s plants are not real buckthorn, or that his cattle have cast-iron stomachs.

Another correspondent, C. G., of Lyons, Mich., inquires whether the Thorn Locust will make a good farm hedge in an inconspicuous situation, and whether it will succeed in the shade, and where the seeds can be obtained. It will make an excellent hedge for such a locality—neither man nor beast will trifle with its spurs. Set the plants to eight inches apart, and do not forget to shear them east once every year. Such a hedge will outlast the apple tree which plants it. As to growing well in the shade, can only say that we have seen a hedge of this kind in a thorn combined, growing well on the sides of an orchard, and more or less under the drip of the apple trees. Seeds for sowing can be obtained, we presume, at most seed stores.

Notices of Agricultural Exhibitions.

PENNSYLVANIA STATE AGRICULTURAL SOCIETY.—From Robert C. Walker, Secretary, we have received an official notice of the forthcoming annual exhibition of this Society, to be held at Philadelphia, Sept. 29th and 30th, Oct. 1st and 2d. Liberal premiums are offered in the various departments of Agriculture, Horticulture, Medicine and Household Arts, and competition on equal terms is invited from neighboring States. The beautiful appropriate grounds on the Powelton Estate, in West Philadelphia, are being thoroughly fitted up. It is proposed to make this a Fair as well as an Exhibition, that provision will be made for the sale of various kinds of improved stock, &c. The Annual Address will be delivered on Friday afternoon, by EDWIN C. WILSON, Esq., premium lists, regulations, &c., address Robert C. Walker, Secretary, Philadelphia.

NEW-YORK STATE AGRICULTURAL SOCIETY.—Great preparations are being made for the next Annual Exhibition at Buffalo, Oct. 5th to 9th, inclusive. The Secretary, B. P. Johnson, Esq., states that the Fair held at Buffalo in 1848, was the best ever held up to that time, and anticipates that the same will be the case the present year. There can be no doubt that the farmers of the Empire State, especially of the Western counties, will turn out in strong force. One of the attractive features of the occasion will be the address by Hon. Edward Everett, at 1 o'clock P. M. on October 9. For premium lists, regulations, &c., address B. P. Johnson, Secretary, Albany, N. Y.

MICHIGAN STATE AGRICULTURAL SOCIETY.—The ninth annual Exhibition will be held the present year at Detroit, Sept. 29 to Oct. 2, inclusive. In a private letter we were informed that adequate efforts are being put forth to surpass all former Exhibitions of the Society. For premium lists, &c., address J. C. Holmes, Sec., at Lansing.

AMERICAN INSTITUTE, 29TH ANNUAL FAIR.—This will be open to the public Sept. 15th, and close Oct. 28th, at the Crystal Palace, New-York City. Articles for competition should only be received from the 7th to the 15th of Sept., except those in the Agricultural and Horticultural Departments, in which provision is made for a continuous exhibition. Much attention and large premiums are devoted to the Agricultural and Horticultural Departments. Full circulars will be furnished on application, personally or by letter, to Wm. B. Leonard, Sec., Crystal Palace, New-York.

The New-York Horticultural Society

Preparing for a splendid Fall Exhibition of three days, open at Niblo's Saloon, Sept. 29, and close on the evening of October 1, with a Festival and Concert. The program of sheets of the Programme, Premiums, &c., reached us just on going to press—too late for further notice. The committee of Arrangements are:—Messrs. Andrew Ridgeman, Henry Heiser, David L. Eigenbrodt, M.D., James Knight, M.D., Peter B. Mead, George H. H. Handell, W. J. Davidson, Richard Warren, William S. Carpenter, John Groshon *Ex-Offi.*

Back Numbers of the Present Volume.

We are very frequently printing extra editions of this Volume, back to January, to supply new subscribers coming in from time to time, many of whom wish to go back to the beginning of the Volume. Let it be understood, then, that those subscribing in July, or at other periods, can at any time order the back numbers of this Volume. Single copies, 10 cents each. Two or more numbers will be sent to regular subscribers, to complete their volumes, at the rate of eight cents per number.

Volume XV. is entirely exhausted, and, unfortunately, we have no stereotype plates of that Volume.

Of Volumes XII., XIII. and XIV., complete sets can still be furnished, bound or unbound. Price, unbound, \$1 per Volume, and 25 cents extra if to be sent by mail, as the postage must be prepaid. Bound Volumes \$1 50 each, not mailable.

With a single exception, the actual regular circulation of the *Agriculturist* to subscribers is about Fifteen Thousand greater than that of any other Journal in the World devoted to Agriculture and Horticulture only.

Advertisements.

TERMS—(invariably cash before insertion): Twenty-five cents per line (of nine words) for each insertion. By the column or half column \$30 per column. Business Notices Fifty cents a line. Advertisements to be sure of insertion must be received at latest by the 20th of the preceding month.

\$75 REWARD.—Stolen on Saturday night the 8th instant, from the stable of the Eagle Works, Harrisburg, Pa., A GRAY MARE, about 14 or 15 hands high, and about 8 or 9 years old, with glass eyes, white face, and an old scar on her right rump. She has a remarkably wide breast, and stands with her fore feet in towards each other; one of her hoofs is split. She was in good condition, a very fast traveler, and goes up hill in a trot or canter, but very carefully down hill, and has the habit of biting at a person who comes near her. There was also stolen at the same time, a saddle and bridle. Fifty Dollars will be paid for her recovery, and Twenty-five Dollars for the conviction of the thief. Any person who has seen her since she was stolen, will be suitably rewarded if they will at once send information of the time and place. The person last seen with her was a man about 6 feet high, light complexion, and about 150 to 160 pounds weight, and belongs to a gang who have been stealing other horses, and it is supposed took others at the same time. Farmers and others are interested in ferreting out this gang. It is supposed he went towards Maryland, and perhaps Baltimore or Frederick, or towards Chambersburg. Address W. O. HICKOK, August 10, 1857. Agent, Eagle Works, Harrisburg, Pa.

THE AMERICAN FARMER'S ENCYCLOPEDIA;

Embracing all the recent discoveries in Agricultural Chemistry, and the use of Mineral, Vegetable and Animal Manures.

With DESCRIPTIONS and FIGURES of AMERICAN INSECTS injurious to Vegetation.

Being a Complete Guide for the cultivation of every variety of Garden and Field Crops. Illustrated by numerous engravings of Grasses, Grains, Animals, Implements, Insects, &c.

By GOUVERNEUR EMERSON, of Pennsylvania, upon the basis of Johnson's Farmer's Encyclopedia.

Price Four Dollars. Sent free of Postage upon receipt of price. "No Farmer should be without it." Published by C. M. SAXTON & CO., Agricultural Book-Publishers, 140 Fulton-st., New-York.

POLYTECHNIC COLLEGE

OF THE STATE OF PENNSYLVANIA, West Penn-square, Philadelphia.

Incorporated 1833, on the plan of the Industrial Colleges of Paris and Berlin. The Courses are thorough and practical. Classes in ENGINEERING, GEOLOGY and MINING are exercised in the Field. For those in MINERALOGY, in INDUSTRIAL, ANALYTICAL and AGRICULTURAL CHEMISTRY, and in METALLURGY a well appointed Chemical Laboratory is provided.

THE FIFTH COLLEGIATE YEAR will commence on MONDAY, Sept. 21, 1857.

For Catalogues and further information apply to Dr. A. L. KENNEDY, Pres. of Faculty.



Parents, and Friends of Education

Will please address the President of Eastman's Commercial College, Oswego, N. Y., for the Annual Catalogue of 1857.

By universal accord the cheapest, largest and most thorough Institution of the kind in the United States, for the proper education of young men and women. Permanently located in the great Commercial City of Central New-York, and accessible from all parts of the Union and Canada.

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Secured and arranged by the President of this Institution, contains the most eminent and scientific literary men in the country, embracing the following distinguished names:

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Great inducements are offered to every one for acquiring an Education in a few weeks' time, of the highest usefulness, and indispensable to every man at the present age.

It is a School for the Merchant, Farmer, and Mechanic. The Catalogue contains full particulars, and much other valuable information. Address, including postage stamp, H. G. EASTMAN, President Oswego Commercial College, Oswego, N. Y.

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HOW TO DO BUSINESS—A NEW POCKET MANUAL of Practical Affairs, and Guide to Success in the various Pursuits of Life.

IN THE COUNTING-ROOM,	FOR THE CLERK,
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IN THE MARKET,	FOR THE BOOK-AGENT,
ON THE FARM,	FOR ALL BUSINESS MEN,
EVERYWHERE,	FOR EVERYBODY.

"HOW TO DO BUSINESS," now ready, closes our first series of "Hand-Books for Home Improvement." It is the most complete work of the kind ever published, embracing the Principles of Business; How to Choose a Pursuit; Natural Qualifications Required for Different Kinds of Business; Education; How to Buy and Sell; How to Get Customers and Keep them; How to Manage a Farm or a Trade; How to Canvass and Get Subscribers; The Causes of Failure; How to Succeed; Book-Keeping; Commercial Forms; Practical Rules, Hints and Maxims, etc. Price, post free, 30 cents; muslin, 50 cents. Sent by FIRST MAIL to any Post-Office, by FOWLER AND WELLS, No. 308 Broadway, New-York.

"How to Write," "How to Talk," "How to Behave," and "How to do Business," same price. The four books, in paper, sent for \$1; in muslin, \$1 75. In one vol., muslin, \$1 50.

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STEEL PLATE ENGRAVINGS, including the beautifully illustrated engraving of the "LORD'S PRAYER and TEN COMMANDMENTS." An active person, with a small capital, can make \$50 to \$60 per month. For particulars, address D. H. MULFORD, 167 Broadway, New-York.

"People kill themselves by eating, by drinking, by labor, by sleep, by want of sleep, by sexual excess, by taxation of brain, by money-making and spending, by extended violation of physical law, in almost every direction. Now THE WATER-CURE JOURNAL contemplates a rectification of the general habits of the people in all cases where correction is needful."—DR. JACKSON.

THE WATER-CURE JOURNAL.—Devoted to Hydro-pathy, its Philosophy and Practice; to Physiology and Anatomy, with engravings; to Bathing, Dietetics, Exercise and to all those Laws which govern Life and Health. Monthly, only \$1 a year. Address FOWLER AND WELLS, No. 308 Broadway, New-York.

CHOICE FARM LANDS FOR SALE.

THE ILLINOIS CENTRAL RAILROAD COMPANY

IS NOW PREPARED TO SELL ABOUT

1,500,000 ACRES OF CHOICE

FARMING LANDS,

IN TRACTS OF FORTY ACRES AND UPWARDS

ON LONG CREDITS, AND AT LOW RATES OF INTEREST.

THESE LANDS WERE GRANTED BY

the Government to aid the construction of this Road, and are among the richest and most fertile in the world. They extend from Northeast and Northwest, through the middle of the State, to the extreme South, and include every variety of climate and productions found between those parallels of latitude. The Northern portion is chiefly prairie, interspersed with fine groves, and in the Middle and Southern sections timber predominates, alternating with beautiful prairies and openings.

The climate is more healthy, mild and equable, than any other part of the country; the air is pure and bracing, while living streams and springs of excellent water abound.

Bituminous Coal is extensively mined, and supplies a cheap and desirable fuel, being furnished at many points at \$2 to \$4 per ton, and wood can be had at the same rate per cord.

Building Stone of excellent quality also abounds, which can be procured for little more than the expense of transportation.

The great fertility of these lands, which are a black rich mold from two to five feet deep, and gently rolling—their contiguity to this road, by which every facility is furnished for travel and transportation to the principal markets North, South, East, West, and the economy with which they can be cultivated, render them the most valuable investment that can be found, and present the most favorable opportunity for persons of industrious habits and small means to acquire a comfortable independence in a few years.

Chicago is now the greatest grain market in the world, and the facility and economy with which the products of these lands can be transported to that market, make them much more profitable at the prices asked than those more remote at Government rates, as the additional cost of transportation is a perpetual tax on the latter, which must be borne by the producer in the reduced price he receives for his grain, &c.

The Title is Perfect, and when the final payments are made, Deeds are executed by the Trustees appointed by the State, and in whom the title is vested to the purchasers, which convey to them absolute titles in Fee Simple, free and clear of every incumbrance, lien or mortgage.

The prices are from \$6 to \$30.

INTEREST ONLY 3 PER CENT.

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Those who purchase on long credit give notes payable in 2, 3, 4, 5 and 6 years after date, and are required to improve one-tenth annually for five years, so as to have one-half the land under cultivation at the end of that time.

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The lands remaining unsold are as rich and valuable as those which have been disposed of.

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Will be sent to any one who will inclose fifty cents in Postage Stamps, and Books or Pamphlets, containing numerous instances of successful farming, signed by respectable and well-known farmers living in the neighborhood of the Railroad lands throughout the State; also the cost of fencing, price of cattle, expense of harvesting, threshing, etc., or any other information, will be cheerfully given on application, either personally or by letter, in English, French or German, addressed to

JOHN WILSON,

Land Commissioner of the Illinois Central Railroad Co. Office in Illinois Central Railroad Depot, Chicago, Illinois.

LAWTON (OR NEW-ROCHELLE) BLACKBERRY PLANTS.
PRICES REDUCED!

The Subscribers announce to their friends and customers, that they have now

OVER SIX ACRES
of the

GENUINE LAWTON (OR NEW-ROCHELLE) BLACKBERRY PLANTS

under cultivation, and in good condition. They are therefore prepared to fill large orders the coming FAEL and the next SPRING, at the following reduced prices:

One Thousand Plants.....	\$125
One Hundred Plants.....	15
Fifty Plants.....	8
Two Dozen Plants.....	4 50
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One Half Dozen Plants.....	1 50

Good Plants for setting, of a second size, will be sold for \$100 per 1,000 Plants, or \$12 per 100 Plants.

N. B.—All Plants ordered of us will be TAKEN up and PACKED with the GREATEST CARE, and UNDER OUR OWN PERSONAL SUPERVISION.

Of the MANY THOUSANDS sent out by us last year, we have heard very few instances of failure, notwithstanding that they have been forwarded to

EVERY PART OF THE COUNTRY, and the setting out has often been entrusted to unskillful hands.

Printed directions for setting and cultivating are sent with every package.

GEORGE SEYMOUR & CO.,
 South Norwalk, Conn.

N. B.—DREW & FRENCH, 85 Barclay-street, New-York City, are our authorized agents for the sale of these plants, from whom they can be obtained of same quality and at same price as of ourselves.
GEO. SEYMOUR & CO.

SMALL FRUITS,

Strawberries, Raspberries, Currants, etc.

We solicit the attention of Nurserymen, Dealers and Amateur fruit-growers to our collection of the above Fruits, the most extensive in quantity and variety ever offered in this country.

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RASPBERRIES—All the popular varieties, including the Orange, the best and most beautiful of its color. Also the superb new Autumnal or Everbearing sorts—Merveille de quatre Saisons and Belle de Poutenay.

CURRANTS—Upwards of 20 varieties, including those superb sorts—Cherry, White Grape, Victoria, Prince Albert, &c. &c.

GOOSEBERRIES—A large assortment of the best English large sorts, and the American Seedling, which bears immense crops, and is always free from mildew.

BLACKBERRIES—New-Rochelle or Lawton, and High Bush or Dorchester.

We solicit orders for the above, and all other Nursery articles, and pledge ourselves to give them our best attention.

The following Catalogues will be sent gratis to all who apply and inclose stamps to prepay postage:

No. 1—A Descriptive Catalogue of Fruits.

No. 2—A Descriptive Catalogue of Ornamental Trees, Shrubs, Roses, &c.

No. 3—A Catalogue of Dahlias, Verbenas, Petunias, and new and select Green-House and Bedding Plants, published every Spring.

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See other advertisement.

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RASPBERRIES AND LINNÆUS PIE PLANT, wholesale and retail. BRINCKLE'S ORANGE RASPBERRY. Also Thunder, Cushing, and Col. Wilder.

And LINNÆUS RHUBARB or PIE PLANT, a new English variety, very superior.

Also STRAWBERRIES, Hovey's Seedling, Boston Pine, and Large Early Scarlet.

Ravenswood, L. I., near New-York.
FREEMAN & KENDALL

STRAWBERRIES—Hovey's Seedling,

Boston Pine, and Large Early Scarlet, \$6 per thousand, \$1 hundred.

Also BRINCKLE'S ORANGE RASPBERRY, and LINNÆUS RHUBARB.

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and other varieties of White Wheat, and Red Mediterranean, all of superior quality.
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We are prepared to fill orders PROMPTLY for GENUINE PLANTS of this remarkable fruit, carefully packed for shipment to any part of the world, from Messrs. George Seymour & Co., the Messrs. Hallowell and others, of the largest and most reliable growers, at the following reduced prices:

\$125 per Thousand; \$15 per Hundred;
 \$8 per Fifty; \$4 50 per Two Dozen;
 \$2 50 per One Dozen; \$1 50 per Half Dozen.

Pamphlets treating of Origin, Characteristics and Culture of the Plant, forwarded on application.

DREW & FRENCH,
 Commission Dealers in Domestic Fruit and Produce,
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The Allen Raspberry.

I again offer to the public this valuable, hardy, red RASPBERRY, of the Antwerp family, but not the TRUE Red Antwerp of the nurseries and market gardeners, as the Allen is perfectly hardy without Winter protection in any climate where it has been tried, up to 45 deg. North. Mr. Allen has cultivated it in his farm gardens, of which I now have the charge, for ten years past, and it was only offered for sale last year, after fully testing its hardiness, prolific bearing, and large, high-flavored fruit. Its strong roots can be relied on for support, and it is every way a most valuable variety, not known elsewhere than in its present grounds, and places to which it has been transplanted.

Price 10 cents each, in quantities less than sixty. For five to eight dozen, \$1 per dozen. For one hundred or more, \$7 per hundred; payment remitted with the order.

The plants will be forwarded by express, railroad or steamboat, as soon after the October frosts as they can be taken up and packed.

A full description of the plant and fruit, and directions for cultivation, will be sent with each package.

Address care of **LEWIS F. ALLEN, Esq.,** Black Rock, N. Y.
 August 15, 1857. **THOMAS DUFF.**

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 for Autumn of 1857.

ELLWANGER & BARRY beg to announce that they offer for the ensuing Fall Trade their usual extensive stock of nursery articles, embracing

STANDARD and DWARF FRUIT TREES of all kinds. SMALL FRUITS, embracing the finest Currants, Gooseberries, Raspberries, Blackberries, Strawberries, &c., &c.

NUTS, including Walnuts, Filberts, Chestnuts, &c.

RHUBARB Linnæus, Victoria, &c., all the best.

GIANT ASPARAGUS, &c. &c.

DECIDUOUS ORNAMENTAL TREES for streets, parks, lawns, cemeteries, &c.

WEEPING TREES, a great collection.

EVERGREEN TREES, including upwards of half a million of Norway Spruce of all sizes, and a large stock of the gigantic WASHINGTONIA, and other California trees.

FLOWERING SHRUBS, Roses, Green-House, Border and Bedding Plants, Hedging, Stocks and Seedlings, &c. &c.

Nurserymen, &c., dealt with on the most liberal terms, and amateur's orders attended to with the greatest care. Packing done in the most thorough and skillful manner, and with the best materials.

For full particulars, we refer to special advertisements, and to the following Catalogues, sent gratis to all who apply and inclose a stamp for each.

No. 1—Descriptive Catalogue of Fruits.

No. 2—Descriptive Catalogue of Ornamental Trees, Shrubs, Roses, &c.

No. 3—Catalogue of Dahlias, Green-House and Bedding Plants.

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ELLWANGER & BARRY,
 Mount Hope Nurseries, Rochester, N. Y.

PARSONS & CO.,

FLUSHING, NEAR NEW-YORK.

Offer for sale an assortment of Trees and Plants which they have grown for the use of amateurs, and have prepared, by frequent transplanting and other modes, for success in moving.

They are of fine size and symmetrical form, and among them will be found

STANDARD APPLES of fine quality.

STANDARD PEARS, PLUMS and CHERRIES.

PEACHES, APRICOTS and NECTARINES, on plum stocks and with the usual roots.

DWARF PEARS of fine form, and ready for bearing.

GOOSEBERRIES and CURRANTS, strong plants of the best sorts.

RASPBERRIES—FASTOLF, RED ANTWERP, FILLBASKET, and other known sorts.

STRAWBERRIES of all the best varieties.

NATIVE GRAPES—ISABELLA, CATAWBA, and other hardy varieties.

FOREIGN GRAPES—All the well-known sorts, with some new varieties of great excellence. These plants are propagated from vines that have borne abundantly for some years, and are known to be correct.

Great care is taken in the cultivation of Fruit trees, and none but those of the best quality are allowed to be sent out.

THE ORNAMENTAL DEPARTMENT

Contains Trees of all sizes for lawns and streets, including Elm, Silver, Norway and Sycamore Maples, Catalpas, Lindens, Tulip Trees, Cypress, Larch, Willows, Ash, Abele, Orientale Plane, and all the best varieties of deciduous trees.

It also includes Evergreens of fine size for single planting, and of small sizes at low prices, from one foot upwards, for massing; among them are Norway Spruce, Balsam Fir, Austrian Pine, Hemlock, White Pine, Scotch Fir, and other varieties.

The best shrubs include many fine varieties at low prices, for massing, of which the *Rhododendron Catawbiense* is particularly recommended for its fine evergreen foliage, showy bloom, and perfect hardiness.

The ROSES are cultivated in very large quantity, on their own roots, of all the most rare varieties, and to those who purchase in quantity, will be sold at greatly reduced rates.

THE EXOTIC DEPARTMENT

Contains a fine assortment of *Camellias*, grown as bushy, rather than tall, slender plants; and also contains all the well-known varieties of exotic plants, and many rare sorts introduced from Europe annually. These are all carefully grown for those who desire plants of symmetry and beauty.

CATALOGUES of all the departments will be furnished on application. Great care will be taken in packing, and trees will be delivered in New-York, and thence shipped as directed.

New-Canada Nurseries.

The subscribers would invite attention to their Nursery stock, consisting of

100,000 Apple trees from 2 to 5 years from the bud or graft;
 40,000 Peach trees, 1 year from the bud;
 20,000 " " 2 years

Pear trees, Standard and Dwarf, Cherry, Apricot and Quince trees. Also 20,000 American Arbor Vitas from three to five feet high (twice transplanted), Norway Spruce and other Ornamental trees. Address

STEPHEN HOYT & CO.,
 New-Canada, Aug. 15, 1857. New-Canada, Ct.

GENESEE VALLEY NURSERIES.



FRUIT TREES, ORNAMENTAL TREES, SHRUBS, ROSES, &c., &c.

The Proprietors of these well-known Nurseries have on hand a large and well-grown stock of

FRUIT TREES, ORNAMENTAL TREES, SHRUBS, ROSES, GREEN-HOUSE and BEDDING PLANTS, DAHLIAS, PHLOXES and other HARDY BORDER PLANTS.

The assortment of ROSES is very extensive, and embraces all varieties which could be obtained, and which are considered worthy of cultivation. Our collection of HYBRID PERPETUALS is the most complete in the country.

The GREEN-HOUSE DEPARTMENT receives particular attention, and the stock of Fuchsias, Geraniums, and other Green-House Plants, is large and varied. In the

FRUIT DEPARTMENT,

our stock consists of

APPLES, of the leading varieties, Dwarf and Standard. PEARS of all desirable varieties, on Quince and Pear stock.

PLUMS—A choice selection of well-grown trees of popular sorts.

CHERRIES—All the popular sorts, Dwarf and Standard. PEACHES—A choice assortment

NECTARINES, APRICOTS and QUINCES, in variety. GRAPES—A complete assortment of both native and foreign sorts, including many of recent introduction.

SMALL FRUITS.

CURRANTS—Twenty-five choice sorts, including many new varieties.

RASPBERRIES, GOOSEBERRIES, BLACKBERRIES, and STRAWBERRIES of all new and approved varieties.

We have, for the accommodation of NURSEYMEN, STOCKS and SEEDLINGS, including APPLE, PEAR, PLUM, CHERRY, QUINCE, &c. &c. Also SEEDLINGS of EVERGREEN TREES, including Norway Spruce, Balsam Fir, Scotch Pine Austrian Pine, Larch and Hedge Plants.

ORNAMENTAL DEPARTMENT.

The stock of Ornamental Trees and Shrubs, both Deciduous and Evergreen, will be found to embrace all that is desirable among LAWN and STREET TREES, and SHRUBS, ROSES, consisting of Hybrid Perpetual and Summer Roses, Moss, Bourbon, Noisette, Tea Bengal or China, and Climbing or Prairie Roses.

HARDY HERBACEOUS or BORDER PLANTS, and BULBOUS FLOWER ROOTS, an extensive assortment.

All the above will be disposed of at low rates, and on advantageous terms. For further details, we refer to our full set of Catalogues, which will be mailed to applicants who enclose a one-cent stamp for each.

No. 1. Descriptive Catalogue of Fruits, &c.

" 2. " " Ornamental Trees, &c.

" 3. " " Green-House and Bedding Plants, &c.

No. 4. Wholesale or Trade List for Nurserymen and Dealers.

Amateurs and others interested in Horticulture are respectfully invited to visit our Show Grounds and Green-House, at 153 South Sophia-street, a short distance from the central part of the City.

All communications to be addressed to
A. FROST & Co.,
 Genesee Valley Nurseries,
 Rochester, N. Y.

August, 1857.

New and Rare Ornamental Trees.

Messrs. ELLWANGER & BARRY solicit the attention of gentlemen who are interested in new and rare Ornamental Trees, to the following, viz.:

KILMARNOCK WEEPING WILLOW, with pendulous brown branches, and large glossy leaves—an elegant tree.

AMERICAN WEEPING WILLOW—A beautiful, small tree, with a profusion of light, graceful, drooping branches, and small silvery green foliage.

RENNY-LEAVED WILLOW—A very striking tree, with feathery branches and bright silvery foliage.

WEEPING POPLAR—A remarkably graceful tree; the tremulous foliage and drooping habit combined, are quite expressive.

CUT-LEAVED WEEPING BIRCH—No other tree possesses in every particular, so much of lightness and elegance as this.

PURPLE-LEAVED SYCAMORE—A very striking tree, having large rich purple foliage.

AGUCA-LEAVED ASH—Quite a novelty, having the leaves all profusely sprinkled with golden blotches.

GOLD-STRIPED WEEPING ASH—A variety of the common Weeping Ash, with golden stripes and blotches on both foliage and branches.

ELMS, PURPLE-LEAVED, NETTLE-LEAVED, PYRAMIDAL, HUNTINGDON, and several other remarkable and beautiful species, and various others.

These are but a few of the many rare and fine trees which E. & B. now offer. In new and rare Shrubs, Roses, Pæonies, Phloxes, and other popular classes of plants, their collection is equally rich.

For particulars, they must refer to the following Catalogues, which will be sent pre-paid to all who inclose one stamp for each:—No. 1. Fruits; No. 2. Ornamental Trees; No. 3. Green-house and Bedding Plants, Dahlias, &c.; No. 4. Wholesale.

Mount Hope Nurseries, Rochester, N. Y., Aug. 1857.

Fruit and Ornamental Trees for Sale.

THE SUBSCRIBER WOULD CALL

attention the coming season to his large stock of Peach and other fruit trees, embracing Apple, Pear and Cherry, both Dwarf and Standard, of extra and medium sizes. Also Apricots, Almonds, Plums, Quinces, &c., with a large stock of Evergreen and deciduous trees, suitable for ornamenting grounds, at reasonable prices; and 50,000 two years growth Silver Maple seedlings, and other Nursery stock.

Catalogues or Trade List, with prices annexed, will be sent to all who inclose a one-cent stamp for each.

Address **ISAAC PULLEN,**
 Hightstown, Mercer Co., N. J.

Aug. 1, 1857.

WM. R. PRINCE & CO., FLUSHING,

N. Y., offer Select Collections of Trees and Plants, unrivaled in the extent of every Department, with Rejected Lists of inferior Fruits, many of which are still cultivated elsewhere.

Their Descriptive Catalogue comprises every variety worthy of culture, and are sent gratis to those who inclose stamps.

No. 1—Fruit and Ornamental Trees, Shrubs and Plants.

No. 2—Roses, Carnations, Chrysanthemums, Phlox, Iris, and all other Flowering Plants.

No. 3—Wholesale Catalogue for Nurserymen and Dealers.

No. 4—Strawberries, Descriptions of 105 Select Varieties.

No. 5—Bulbous Flowers of every class, including 250 varieties of Pæonies, and Dahlias and other Plants.

No. 6—Treatise on the Chinese Potato, with reduced prices. All the Trees and Plants are of the first quality, and will be supplied at the lowest rates.

WM. R. PRINCE & CO.

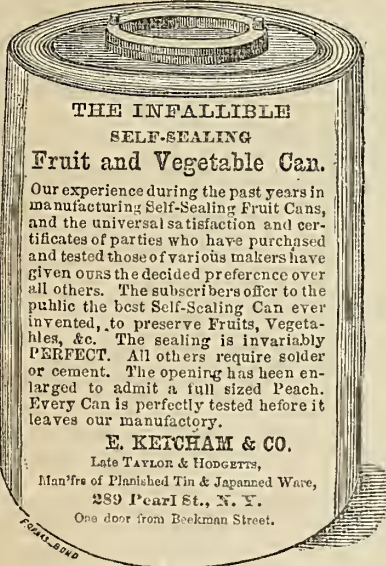
**TO NURSERYMEN.
STOCKS AND SEEDLINGS.**

We beg to announce to the trade that we are able to supply the following in large quantities, viz.:

MAZZARD CHERRY Seedlings.....	1 year.
APPLE Seedlings.....	2 "
QUINCE from Cuttings.....	1 "
HORSE CHESTNUTS.....	1, 2 and 3 "
ELM, American.....	2 and 3 "
BLACK WALNUT and BUTTERNUT.....	3 "
MAPLE, Silver and Scarlet.....	2 and 3 "
MAPLE, Sugar.....	1 "
MAGNOLIA, Acuminata.....	2 and 3 "
MOUNTAIN ASH, European.....	1 "
LABURNUMS.....	2 "
OAKS, Red and White.....	3 "

And many other articles, for which see other advertisement, and Catalogues, Descriptive and Wholesale, which are sent gratis to all who apply and inclose stamps to prepay postage.

ELLWANGER & BARRY,
Mount Hope Nurseries, Rochester, N. Y.



**THE INFALLIBLE
SELF-SEALING
Fruit and Vegetable Can.**

Our experience during the past years in manufacturing Self-Sealing Fruit Cans, and the universal satisfaction and certificates of parties who have purchased and tested those of various makers have given ours the decided preference over all others. The subscribers offer to the public the best Self-Sealing Can ever invented, to preserve Fruits, Vegetables, &c. The sealing is invariably PERFECT. All others require solder or cement. The opening has been enlarged to admit a full sized Peach. Every Can is perfectly tested before it leaves our manufactory.

E. KETCHAM & CO.
Late TAYLOR & HODGETTS,
Man'rs of Planchised Tin & Japanned Ware,
289 Pearl St., N. Y.
One door from Beekman Street.

**'TAYLOR & HODGETTS'
INFALLIBLE
SELF-SEALING FRUIT CAN,**

WITH BURNETT'S ATTACHMENT.
Patented August 21, 1855.

It has long been a desideratum to preserve Fruits by some cheap method, such as would keep them fit for domestic use, a number of years. The expense of preserving with sugar is a serious objection. Free access of atmosphere causes the decomposition of vegetable matter. It is obvious that the exclusion of it must prevent this effect from taking place, and that, consequently, if Berries, Fruits, Vegetables, &c. &c. are completely kept from the contact of air, they cannot spoil. To effect this, the only safe and reliable article is

TAYLOR & HODGETTS' SELF-SEALING CAN.

It is so simple in its construction, that any one can close Fifty Cans an hour without the aid of a tinner; it requires neither Solder, Cement nor Wax. The article is very strong, and will last a number of years. The aperture is sufficiently large to admit a full sized peach.

Apricots, Plums, Pears, Cherries, Peaches, Strawberries, Raspberries, Blackberries, Tomatoes, Green Peas, Green Corn, Figs, Asparagus, Rhubarb or Pie Plant, and in fact each and every kind of Fruit and Vegetable, can be preserved for years in their fresh state, in any climate.

SIZES.
Quart, 3-Pint, Half-Gallon and Gallon.

Trade supplied on liberal terms.

Full directions for putting up the various Fruits and Vegetables accompany the cans.

F. KETCHAM & CO.,
289 Pearl-street, New-York.



New-York State Tile Works.

On the Western Plank Road, near the Orphan Asylum, Albany, N. Y.

The subscriber having purchased the Drain Tile Works of Archer & Co., offers for sale the following-sized Tiles:

Horse Shoe Tile cut 14 inches long—	Sole Tile cut 14 inches long—
Pieces.	Pieces.
2 1/2 in. calibre.....	\$12 per 1,000
3 1/2 " " " " " " " "	3 " " " " " "
4 1/2 " " " " " " " "	4 " " " " " "
5 1/2 " " " " " " " "	5 " " " " " "
6 1/2 " " " " " " " "	6 " " " " " "
8 " " " " " " " "	8 " " " " " "

I warrant every Tile perfectly sound, and harder and better Tile than any before made in Albany. If not, the purchaser need not pay for them. I will also undertake Draining to any amount, and at any place, and furnish Tile for the same, and ask no more until the employer is perfectly satisfied with the result. I am also willing to render my services in laying out Drains free of charge, to any one who purchases Tile of me.

A liberal per centage will be allowed on orders for 10,000 or more. Carriage free. Gentlemen, your patronage is respectfully solicited. Orders from all parts thankfully received, and promptly attended to.

GEORGE ALDERSON, Albany, N. Y.
Office, 63 Quay street.
(Late ARCHER & Co.)

**Hildreth's Celebrated
IRON GANG PLOW**

has invariably taken the
FIRST PREMIUM
at every Fair wherever exhibited in several States and Counties, It is fast superseding all other implements for cross-plowing and surface cultivation.

One of these Gangs is now on exhibition at the Crystal Palace.

Please see cut and editorial remarks in August number of this paper.

Circulars with full description, testimonials, &c., furnished on application to
HILDRETH & CHARLES,
Lockport, N. Y.

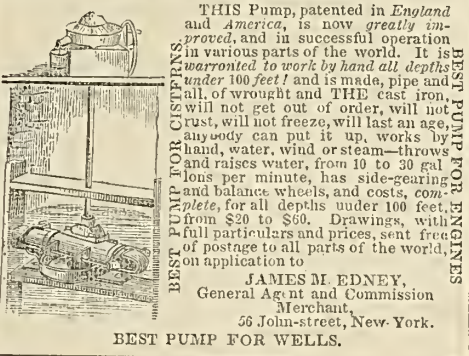
IMPROVED HARROW AND CLOD CUTTER.

This is a highly useful and valuable farm implement, and one that has been long needed. It drew a premium and high recommendation at the late State (Pa.) Fair.

Farmers who want an important improvement for harrowing rough and cloddy ground, should procure it at once. Warranted to give satisfaction. Price \$25 cash. Address orders to
JOHN WINBERENNER,
Harrisburg, Pa.

AGENTS IN PENNSYLVANIA:—Boas, Spangler & Co. Philadelphia and Reading; W. T. Fillis, Parksburg, Chester County; Rittenhouse & Co., Norristown; S. K. Moyer, Auburn; Sturdevant & Co., Wilksbarre; A. Major & Bro., Lebanon; John Stroh, Anville; John Allen, Latrobe, Westmoreland County; J. Armstrong, Carlisle; Wm. Stormont, Chambersburg; J. Wardrop, Pittsburg; C. Driesbach, Lewisburg; and Demon & Speakman, West Chester, and many other county towns.

Lindsey's Rotary Force and Lift Pump.
BEST PUMP FOR RAILROADS.



THIS Pump, patented in England and America, is now greatly improved, and in successful operation in various parts of the world. It is warranted to work by hand all depths under 100 feet and is made, pipe and all of wrought and THE cast iron, will not get out of order, will not rust, will not freeze, will last an age, anybody can put it up, works by hand, water, wind or steam—throws and raises water, from 10 to 30 gallons per minute, has side-gearing and balance wheels, and costs, complete, for all depths under 100 feet, from \$20 to \$60. Drawings, with full particulars and prices, sent free of postage to all parts of the world, on application to

JAMES M. EDNEY,
General Agent and Commission Merchant,
56 John-street, New-York.

BEST PUMP FOR ENGINES
BEST PUMP FOR WELLS.

**HICKOK'S KEYSTONE
CIDER MILL,**

MANUFACTURED BY THE
EAGLE WORKS, HARRISBURG, Pa.

This sterling Machine has within the past year been put to severe actual tests, and been very much improved by the addition of a 22-inch fly-wheel, new gearing, joint bolts, and other major improvements, and is now offered to the public with the certainty that it is made in the very best manner, and that it will grind and press easier and faster than any other Mill in the market. Dealers and others supplied on liberal terms.

Address **W. O. HICKOK**
Agent Eagle Works, Harrisburg, Pa.

**ALDERNEY COWS FOR SALE.
TWO COWS WITH CALVES—ONE**

Bull Calf, one Heifer do.; one Heifer, 15 months old; one very fine Bull, were imported some sixteen months ago, and will be sold reasonable.

Address **GIDEON THOMPSON,**
Bridgeport, C.

**GREAT SALE OF
DEVON CATTLE
And South Down Sheep.**

ON WEDNESDAY, 9TH OF SEPTEMBER, 1857,
I will sell at public auction, WITHOUT RESERVE, my herd of Devon Cattle, about forty-five in number, and my flock of South Down Sheep, about one hundred, at my farm on Grand Island, two miles from the railroad and omnibus stations in North Buffalo.

I have bred Devons for many years. The original stock were derived from the best animals, and for the last seven years my breeding bulls have been of imported blood, direct from Devonshire, England, which, with several of my present cows, are recorded in the English Devon Herd Book. All my herd will be recorded in the American Devon Herd Book, soon to be published, and are equal, probably, in quality, to any others in this country. The herd consists of about 30 cows and heifers, and 15 or 16 bulls and bull calves.

My South Downs are descended originally from the flocks of Mr. Ellman, the Duke of Richmond, and other celebrated English breeders, crossed for the last seven or eight years with rams bred by the great South Down breeder, Mr. Webb, of Bahrahram, England. There will be 75 or 80 ewes, the remainder rams.

As I intend making a CLEAN SALE, this will probably be a better opportunity for purchasers to select animals to their liking than any other which will occur for some time.

Descriptive Catalogues will be ready by the first of August, which will be sent by mail to all those applying to me by letter.

TERMS OF SALE.—For all sums less than \$100, cash; on sums of \$100 and over, good notes at three months, on interest, payable at bank, will be received.

The stock will be delivered on steamboat or railroad, at Buffalo, as may be desired, the day after the sale.

Those wishing to view the stock previous to the sale, will be conveyed to the farm by calling at my residence; and those attending on the sale day will cross the Niagara river between the farm and main shore by steam ferry from the omnibus station at Lower Black Rock, or North Buffalo, to which either the omnibuses or rail cars will bring them from their stations in Buffalo. Sale to commence at 11 o'clock A. M. of the first day.

LEWIS F. ALLEN.
BLACK ROCK, N. Y., July, 1857.

AGRICULTURAL IMPLEMENTS.

CIDER MILLS—Hickok's new and improved kind, the best in the United States.

HORSE POWERS of all kinds—Allen's Railroad, Emery's do., Tappin's rim or circular, Bogardus' iron, &c. &c.

THRASHERS of all kinds—Overshot with separators, Under-shot, Halls', and others with fans attached.

FAN MILLS—Allen's, Griggs', and others.

CORN SHELLERS of every variety.

STRAW CUTTERS—A dozen varieties of the best.

VEGETABLE CUTTERS.

SAUSAGE CUTTERS and STUFFERS.

CARTS and WAGONS made to order.

GARDEN and RAILROAD BARROWS.

PLOWS of every description for Northern and Southern use, and for every kind of soil and crop.

CULTIVATORS, HARROWS, &c. &c.

POTATO DIGGERS—The Langdon Plow, with its attachments, is admirably adapted to this purpose.

PILKINGTON SMUT MACHINE—The best and cheapest in use.

ROTT'S VEGETABLE BOILERS.

LITTLE GIANT CORN and COB CRUSHERS.

ROAD SCRAPERS.

SUGAR MILLS for crushing the Chinese and other Sugar Cane, of various sizes and patterns.

All the foregoing, of the best kinds and most reliable materials, Wholesale and Retail, by
R. L. ALLEN,
189 Water-street, New-York.

THERMOMETERS, BAROMETERS, &c.

of reliable quality and various descriptions, among which are those particularly suited for Horticultural purposes, which register the coldest and warmest degree of temperature during the 24 hours, in the absence of the observer. For sale by
D. EGGERT & SON, 239 Pearl-st.

RUSSIA OR BASS MATS, GUNNY BAGS, TWINES, &c., suitable for Nursery purposes, for sale in lots to suit, by
D. W. MANWARING, Importer,
248 Front-street, New-York.

PURE BONE MANURE can be obtained in large or small quantities of the manufacturers.
A. LISTER & CO.,
Turrytown, N. Y.

Ammoniated Superphosphate of Lime.

The subscribers, who are manufacturers of the ORIGINAL Ammoniated Superphosphate of Lime, and having numerous testimonials from Farmers who have used it for the last five years, we offer it in confidence, feeling assured that it will render satisfaction. For sale in lots to suit purchasers.

ROGERS & BOYER,
111 (late 29) Market-street, Philadelphia.



THE HAIR! THE HAIR!!

What Lady or Gentleman would be deprived of a beautiful head of Hair, when by the use of LYON'S KATHAIRON such an one can so easily be had? Too much value cannot be placed on a fine head of Hair—not only as an adornment to the person—and no person is well dressed without well-arranged Hair—but, also, as intimately connected with the general health of the body—for this connection is much closer than is generally supposed. The KATHAIRON preserves and beautifies the Hair, making it soft, curly, and glossy; and by its cleansing and invigorating properties, give tone and elasticity to the whole system. Sold everywhere for 25 cents per bottle.

HEATH, WYNKOOP & CO.,
Proprietors and Perfumers,
63 Liberty-street, New-York.

**DOCTOR HOOFLAND'S
CELEBRATED
GERMAN BITTERS.**

PREPARED BY
Dr. C. M. JACKSON, Philad'a, Pa.

WILL EFFECTUALLY CURE
**LIVER COMPLAINT, DYSPEPSIA, JAUNDICE,
CHRONIC OR NERVOUS DEBILITY,
DISEASES OF THE KIDNEYS,
AND ALL DISEASES
ARISING FROM
A DISOR-
DERED
LIVER
OR
STOMACH;**

Such as Constipation, Inward Piles, Fulness or Blood to the Head, Acidity of the Stomach, Nausea, Heartburn, Disgust for Food, Fulness or Weight in the Stomach, Sour Eructations, Sinking or Fluttering at the Pit of the Stomach, Swimming of the Head, Hurried and Difficult Breathing, Fluttering at the Heart, Choking or Suffocating Sensations when in a lying posture, Dimness of Vision, Dots of Webs before the Sight, Fever, and Dull Pain in the Head, Deficiency of Perspiration, Yellowness of the Skin and Eyes, Pain in the Side, Back, Chest, Limbs, &c. Sudden Flushes of Heat, Burning in the Flesh, Constant Imaginings of Evil and Great Depression of Spirits.

The Proprietor, in calling the attention of the public to this preparation, does so with a feeling of the utmost confidence in its virtues and adaptation to the diseases for which it is recommended.

It is no new and untried article, but one that has stood the test of a ten years' trial before the American people, and its reputation and sale is unrivalled by any similar preparations extant. The testimony in its favor, given by the most prominent and well-known physicians and individuals in all parts of the country, is immense, and a careful perusal of the Almanac, published annually by the Proprietor, and to be had gratis of any of his Agents, cannot but satisfy the most skeptical that this remedy is really deserving the great celebrity it has obtained.

Printed Office and Manufactory, No. 56 ARCH-street, Philadelphia, Pa. And for sale by all Druggists and Store-keepers in every town and village in the United States and Canada.

STATE AGRICULTURAL EXHIBITIONS, 1857.

In our August No., on page 188 we gave the TIME and PLACE of 171 Exhibitions. We now add a list of 104 others since reported to us. Those marked * are changed in time or place from our former list.

Ohio and Pennsylvania—Horse Show at Salem, Sept. 9 to 11; N. East Missouri—Paris, Sept. 15 to 18; *Pennsylvania—Philadelphia, Sept. 29 to Oct. 2; Massachusetts Horse Show at Springfield, Sept. 30 to Oct. 2; Missouri Central—Booneville, Oct. 5 to 9; Virginia Valley—Winchester, Oct. 13 to 16; Georgia—Atlanta, Oct. 20 to 24; Ohio Pomological Society at Cincinnati, Sept. 14 to 16.

COUNTY EXHIBITIONS.

MAINE.—Washington, at Pembroke, Oct. 7. VERMONT.—Rutland at Rutland, Sept. 16 to 17; Addison at Middlebury Sept. 23 to 24.

MASSACHUSETTS.—Middlesex North at Lowell, Sept. 16; Worcester West, at Barre, Sept. 17; Middlesex South, at Framingham, Sept. 22 to 23; Worcester, at Worcester, Sept. 23 to 24; Franklin, at Greenfield, Oct. 1 to 2; Housatonic, at Great Barrington, Sept. 23 to 24; *Hampden, at Springfield, Sept. 28, 29, 30, to Oct. 1, 2, 3; Norfolk, at Dedham, Sept. 29 to 30; Middlesex, at Concord, Sept. 29; *Essex, at Newburyport, Sept. 30, to Oct. 1; Worcester South, at Sturbridge, Sept. 30; Plymouth, at Bridgewater, Sept. 30 to Oct. 1; Bristol, at Fall River, Sept. 30 to Oct. 1; Worcester North at Fitchburg, Oct. 2; Hampden East, at Palmer Depot, Oct. 6 to 7; Franklin & Hampden, at Northampton, Oct. 7 to 8; Barnstable, at Barnstable, Oct. 7 to 8; Berkshire, at Pittsfield, Oct. 7 to 9; Nantucket, at Nantucket, Oct. 13 to 14; Hampshire, at Amherst, Oct. 14 to 15.

NEW-YORK.—*Rensselaer, at Lansingburgh, Sept. 15 to 17; Oswego, at Mexico, Sept. 16 to 18; Lewis, at Turin, Sept. 23 to 24; Columbia, at Chatham 4 Corners, Sept. 23 to 25; Cayuga, at Auburn, Sept. 23 to 25; Montgomery, at Fonda, Sept. 24 to 25; Orange, at Goshen, Sept. 29 to Oct. 1; *Ontario, at Canandaigua, Sept. 29 to Oct. 1; Chautauque, at Fredonia, Sept. 30; Oneida, at Utica, Sept. 30 to Oct. 1; Steuben, at Bath, Sept. 30 to Oct. 2; Angelica, at Angelica, Oct. 1 to 2; Schuyler, at Watkins, Oct. 1 to 2; Yates, at Penn Yan, Oct. 8 to 9.

NEW-JERSEY.—Mercer, at Hightstown, Sept. 14 to 16; Camden & Gloucester, at Woodbury, Sept. 15; Hunterdon, at Flemington, Sept. 15 to 17; Monmouth, at Freehold, Sept. 23; Salem, at Salem, Sept. 24; Cumberland, at Bridgeton, Sept. 30; Burlington, at Mt. Holly, Oct. 6 to 7; Sussex, at Newton, Oct. 6 to 8.

PENNSYLVANIA.—Tioga, at Wellsborough, Sept. 30 to Oct. 2; Armstrong at Kittanning, Sept. 30 to Oct. 2.

KENTUCKY.—Nelson at Bardstown, Sept. 22 to 25; Mason & Bracken, at Germantown, Sept. 29, to Oct. 2.

OHIO.—Franklin at Columbus, Sept. 9 to 11; Ashland at Ashland, Sept. 22 to 24; Clermont (Independent,) at Bantam, Sept. 22 to 25; Marion at Marion, Sept. 23 to 27; Lawrence at Ironton, Sept. 29 to Oct. 1; Guernsey at Cambridge, Oct. 1 to 2; Vinton at McArthur, Oct. 6; Huron at Olena, Oct. 6 to 8; Montgomery at Dayton, Oct. 6 to 8; Mahoning at Canfield, Oct. 6 to 8; Brown (Independent,) at Ripley, Oct. 6 to 9; Carrollton at Carrollton, Oct. 14 to 16; Coshocton, at Coshocton, Oct. 14 to 16; Preble at Eaton, Oct. 14 to 16.

INDIANA.—Wayne at Richmond, Sept. 29, to Oct. 2.

ILLINOIS.—Cass at Virginia, Sept. 1; Bureau at Princeton, Sept. 2 to 3; Fulton at Vermont, Sept. 10; Union at Jonesboro, Sept. 24 to 25; Mercer at Millersburg, Sept. 29, to Oct. 1; Kendall at Bristol, Sept. 29, to Oct. 3; Macon at Decatur, Sept. 30, to Oct. 2; Kane at Geneva, Sept. 30, to Oct. 2; Whiteside at Morrison, Oct. 1 to 3; Brown at Mt. Sterling, Oct. 7 to 8; Boone at Belvidere, Oct. 7 to 9; Stephenson at Freeport, Oct. 7 to 9.

MICHIGAN.—Northern Lenawee at Tecumseh, Sept. 10; Eaton at Charlotte, Sept. 30, Oct. 1; St. Joseph's at Centreville, Oct. 7 to 8; Genesee at Flint, Oct. 7 to 8; Lenawee at Adrian, Oct. 7 to 8; Shiawassee at Corunna, Oct. 7 to 8; Macomb at Romeo, Oct. 7 to 9; Oakland at Pontiac, Oct. 7 to 9; Livingston, at Howell, Oct. 9 to 11.

IOWA.—Wapello at Ottowa, Sept. 24 to 26; Clayton at Clayton Centre, Sept. 30, to Oct. 1; Madison at Winter set, Oct. 1 to 2; Marshall at Lafayette, Oct. 7 to 8; Henry at Mt. Pleasant, Oct. 14 to 15; Van Buren at Keosauqua, Oct. 16; Linn at Marion, Oct. 20 to 22.

MISSOURI.—South Eastern at Cape Girardeau, Oct. 8 to 10.

WISCONSIN.—Waupaca at Waupaca, Sept. 23 to 24.

Any Exhibitions to be held in October or November, which are not given in the above list, or in the August Agriculturist, we shall be glad to have reported for announcement in our next number.

We have received many requests from Agricultural Societies, to deliver Addresses at their Annual Exhibitions. These we have been obliged to decline. Editorial labors require most of our time, and when we do go, we much prefer to go as silent spectators, to observe and gather whatever may be of interest to our readers.

We cannot publish detailed reports of either County or State Exhibitions. Any new facts, respecting modes of culture, methods of feeding animals, improvements in farm or garden implements, &c., will be of general interest. We shall be obliged to all correspondents who may assist us in gleanings such information.

MARKET REVIEW, WEATHER NOTES, &c.

AMERICAN AGRICULTURIST OFFICE, NEW-YORK, August, 25, 1857.

The Breadstuff Markets have been rather quiet the past month, owing chiefly to the uncertainty as to the yield here and in Europe. It is now settled that there has been a large crop on the other side of the Atlantic, with a full average yield here. The demand for export will be light and the fears of a decline in prices on the part of farmers in this country is probably well founded. Corn may yet come in poor, as the weather has been scarcely warm enough to hasten it forward very rapidly. All now depends upon the weather of a few weeks to come, especially in the more Northern States and Canada. Potatoes have rotted somewhat, but not yet so bad as was feared. The following table shows the present prices of various articles of produce, with the variations since our last report.

Table with 3 columns: Commodity, July 29, Aug 25. Includes items like FLOUR, WHEAT, CORN, RICE, etc.

LIVE STOCK.—During four weeks past about 13,000 Beef Cattle have come to this Market. Prices have varied materially from week to week, being about the highest ever known, on August 12, but have fallen back to nearly the figures given in our last report. Sheep and Lambs have come in somewhat freely, the average weekly receipts being 11,400. Prices have scarcely changed during the month. Good Sheep and Lambs bring prices equivalent to about 4c. @ 5c. @ 5c. live weight for sheep, and 6c. @ 7c. @ 7c. live weight for Lambs.

THE WEATHER.—Our condensed weather notes read: July 29, cloudy A. M. clear and warm P. M.; 30, heavy N. E. rain all day; 31 cloudy A. M. clear P. M.; August 1 to 4 clear and warm with rain at night of the 4th; 5 and 6 light rain or showers each day; 7 to 9 clear and fine; 10 cloudy A. M. rain P. M.; 11 to 16 clear and very warm, mercury reached 93° on the 14th; 17 and 18 cooler with little sunshine; 19 clear and fine, rain at night; 20 and 21 fine days with cool nights; 22 clear and warm with rain at night; 23 heavy shower and large hail stones; 24 and 25 clear and fine with cool mornings.

When this Number is Mailed.

The first copies of this (Sept.) Number will be mailed to the most distant subscribers on Thursday, Aug. 27. The balance will be mailed on Friday, Aug. 28, and Saturday, Aug. 29, those going the greatest distance being sent off first. A few copies, particularly to new names last received, may be delayed to Monday, Aug. 31. All further delays must be charged to the U. S. Post-Office Department.

City subscribers who have paid for delivery, and who do not receive their papers regularly by carrier or penny post, are requested to give notice at the office.

Contents for September, 1857.

Table listing contents for September 1857, including sections like Apiary in September, Arbor Vitae, Bee Hive, Blackberry, Boys and Girls Page, etc.

Our Basket; or, Notes to Correspondents, and Cleanings—Agricultural Premiums—Apples, Salt Barrels for—Back Numbers—Books, Nursery—Buildings, Farm—Bulbs—Cherry, Wild Black—Cranberries—Crop Prospects—Curculio—Draining—Farmers' Sons' Education of—Grapes, Hardy—Grape Rot—Grass, Wild Pepper—Hedges, Buckthorn and Thorn Locust—Honey Crop—Horticultural Society, New-York—Hot Houses, Works on—Insects, Wheat—Maure, Hen—Matrimony, Map of—Millet—Moon's Influence—Okra and Oyster Plant—Penn. State Agricultural Society—Postage Stamps—Strawberry Plot—Superphosphates—Trees, Root Graft—Vetches and Vernal Grass—West, Going—Wheat Soil in Missouri—Whortleberries.

American Agriculturist.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; IN-DOOR and OUT DOOR work around the DWELLING; care of DOMESTIC ANIMALS &c. &c.

The matter of each number will be prepared with reference to the month in which it is dated, and will be promptly and regularly mailed at least one day before the beginning of the month.

A full CALENDAR OF OPERATIONS for the season is given every month.

Over FIVE HUNDRED PLAIN, PRACTICAL, instructive articles are given every year.

The Editors and Contributors are all PRACTICAL, WORKING MEN.

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One copy one year.....\$1 00
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AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture.

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON.

ORANGE JUDD, A. M., }
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For Contents, Terms, &c. see page 240.
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WORK FOR THE MONTH.

Morn on the mountain, like a Summer bird
Lifts up her purple wing, and in the vales
The gentle wind, a sweet and passionate wooer,
Kisses the blushing leaf, and stirs up life
Within the solemn woods of ash deep-crimsoned,
And silver beech, and maple yellow-leaved,
Where Autumn, like a faint old man sits down
By the wayside awary.—LONGFELLOW.

The Autumn time is unmistakably with us. It is here in all its chastened beauty, tinged field and forest with a somber hue. It is one of the most delightful seasons of the year in our climate. The Summer heats are over, and the Winter frosts and winds are yet in the distance. It is only in the early morning that the chill air makes the fire upon the hearth-stone enjoyable. All day long the mellow sunlight and the soft air invite you forth to the labors of the field, to way-side wanderings, to hunting in the deep forests, or to fishing where the speckled trout still watches for the insects that float upon the stream. With all the signs of decay around you, Nature never wears a more charming aspect, or speaks in more winning tones to the heart of man. It is a season of fruition to the farmer. His long delayed hopes are at length realized. The corn that he planted with trembling, and cultivated with solicitude through the floods and drouths of Summer, now reveals its golden kernels beneath the ripening husks. Frost cannot injure it now. Drouth will not blight it. It is as secure as if it were already in the store-house. Pleasant visions rise up before the farmer as he looks over the broad acres covered with this precious grain. Now it is a pocket full of money, or an increase of bank stocks. Now it is a heap of yellow meal to be wrought into the delicious brown bread of our Puritan fathers, or to be served up in Johnny cakes, hoe cakes, hasty pudding, samp, hominy, or the hundred other nice dishes that his good wife knows so well how to prepare. He loves to gaze upon this crop ripening under the October skies, until his soul catches the hue of the sunlight that lies soft, like the smile of God, upon his fields. Everywhere the earth is full of his riches. Here potatoes of snowy whiteness are nestled in the rounded hills. There turnips still show their broad leaves, and the swelling bulbs beneath. Here are stacks of grain and hay, the overflowing fullness of

his barns. There are his flocks and herds cropping the aftermath, now in its glory.

And the uncultivated wilds and forests are quite as charming to the eye.

"What gorgeousness, what blazonry, what pomp
Of colors burst upon the ravished sight!
Here, where the maple rears its yellow crest,
A golden glory; yonder, where the oak
Stands monarch of the forest, and the ash
Is girt with flame-like parasite, and broad
The dog-wood spreads beneath a rolling field
Of deepest crimson; and afar, where looms
The gnarled gum, a cloud of bloodiest red!"

These scenes of forest splendor greet us on every hand in our country, and every one that has a soul within him must rejoice in the Autumn aspects of Nature.

The harvests are secure, and now the farmer has a little leisure to contemplate the esthetics of his occupation. In the hurry of the hay and grain harvest, time could not be afforded to study the appearance of things, and to put them in order. Now a word of exhortation upon

NEATNESS

may not pass unheeded. This is a prime virtue in husbandry, an essential part of it, if we take that word in its strict acceptance. Not only is it more pleasing to the eye to have the farm premises in order—a place for every thing, and every thing in its place—but it is far more profitable. In fifty farms where neatness reigns, and fifty more where a sloven bears rule, you shall find thrift almost always keeping company with good order, and shunning the society of the slack and slovenly. It is economy to have a tool-house, where every farm implement can be sheltered, though the first cost is considerable. It is a sad waste to have the carts stand exposed to all the weather, the axes stuck in the log at the wood pile, the plows left in the furrow, the chains hanging by the barn-yard gate, and the ox-yoke and whip at the watering trough, the scythes hung in the apple tree over the grind-stone, and the shovels and hoes rusting in a corner of the stable. Wood goes to decay, exposed to all the changes of the weather, and farmer Slaek, who has a place for nothing, spends more money in repairing decayed tools than farmer Tidy does in keeping everything in order. He spends more time in looking up missing tools than his neighbor does in putting up every tool clean and bright when he has done using it. It is much easier to put a tool where you can find it, when you have it in hand, than to lay your hand upon it when you do not know exactly where it is.

We love to see a neat farm-house, the abode of contentment and thrift, the clap-

boards painted, a yard neatly fenced in, and graced with borders for flowers, stone fences built in straight lines, orchards well trimmed, and loaded with fruit, barns of ample dimensions, with every fork and rake and milking stool where the owner can find them in the night.

The value of these habits of order is beyond estimate in a household where children are in course of training. The farmer will almost inevitably leave his own habits stamped upon his sons. If they go forth to other callings with a cultivated taste, and with habits of neatness and order, it will be a passport to favor wherever they may go. The foundation of success in life is already laid in those virtues which they have learned to cherish at home. Looking at this matter, then, in almost any point of view, it will be found that neatness *pays*.

And now that the pressure of harvest duties are over, look a little at the small matters which so many are prone to overlook. There is a rickety board fence that every wind threatens with an overthrow. Let it be repaired or renewed, so that you will sleep quietly in the Winter nights. Here is a piece of dilapidated wall that has been making sheep and cattle breachy for a dozen years. Let it no longer tempt cattle to their undoing, and to the ruin of your crops. There are boulders in the meadow on which many a plow has been wrecked. Let them be blasted or buried. Let all things offensive to good taste be removed.

PRESERVING FRUITS AND VEGETABLES.

And while the farmer himself is slicking up out of doors, the farmer's wife, within, should be making some slick things for Winter. With the self-sealing cans of varied type, and patent, no good house-keeper has an excuse for not laying in a good supply of those fruits and vegetables which now grace her table. They keep perfectly in these cans, and some of them can hardly be distinguished from the fresh picked articles. Green corn, tomatoes, peaches, berries, plums, and other perishable fruits, not only add greatly to the delicacies of the farmer's table in the Winter, but they promote health. Nothing can be a more agreeable change from the inevitable salt junk and potatoes than these preserved fruits and vegetables. Lay in a good stock of them.

SHELTER FOR STOCK.

Many farmers still neglect their animals in Winter, feeding them from the stack-yard, in the open air. This practice is not only barbarous, but is very expensive. It takes

a third more of hay to carry a cow through the Winter by this method, and with the best of hay she will not come out in good condition. Warm stables are a substitute for fodder, and an animal sheltered in them is much more easily kept in high flesh. Then, by stabling animals, we can save all the manure, which is quite too large an item for farmers in this age to throw away. Many who have large farms, and do not wish to build a barn large enough to hold all the hay and grain, build several small barns in different meadows. These save the carting, both of hay and of manures. In no case should hay be foddered out to cattle without some kind of shelter. A hovel opening to the south can be made very cheaply, and with light walls and thatched roof, it will keep cattle quite comfortable. They will save the cost of building in a single Winter. Now is the time to put them up.

ORNAMENTAL TREES.

There is quite too great a dearth of these about farm houses. Nothing renders a home more attractive than rows of stately trees along the roads that lead to it. They occupy land that can be used for no other purpose, and in a few years become valuable for fire-wood or for timber, if one can afford to put them to that use. But when once planted, and adorning the road-side, and by their beauty adding value to the farm, few would feel that they could afford to cut them down. We learn to prize many things that have no pecuniary value. Plant elms, maples, oaks, lindens and ashes, and watch their future growth. Unconsciously the affections will cling to them, and we shall find them strong ties to bind us and our children to home.

RENEW THE FAILING FRUIT TREES.

Some have died with age, after long and fruitful lives, trees planted by your predecessors upon the farm. You have enjoyed the fruit of their labors, and it is meet that you should plant for others, even if you never see their fruit. Some trees of your own planting are already dead. It is not strange that every planting is not a success. All crops fail sometimes, and the fruit-grower must have his share of failures. Trees, well planted, are much more likely to live than to die. Plant pears and apples this Fall, from the best nursery near you, and let your children bless you.

THE FARMER'S HOLIDAYS.

The fairs where the best stock and the best products of the farm are put on exhibition, should have your patronage. Go up to them, as to a feast of the soul, and take your wife and children with you. It is a needed recreation, after the labors of the Summer, and you can not fail to gain some new hints in culture, in stock and crops, that will profit your next year's operations. But farmers should send up the best of their products, as well as go themselves. Every farm should be represented in the county fair.

We hail with great satisfaction the multiplication of these societies all over our land, and the increasing multitudes that come up to them every year. Put down the fairs as a part of your programme for October.

CALENDAR OF OPERATIONS.

OCTOBER, 1857.

[We note down a summary of various operations, many of them very common ones, it is true, but a simple catalogue like this will often suggest a piece of work that would otherwise be forgotten. The Calendar is adapted to the latitudes of 40° to 44°. A little allowance must be made for each degree of latitude—earlier north—later south. This table will be made out anew every month, and adapted to the season of each year.]

EXPLANATIONS.—The letters, f. m. l., refer to *first, middle, and last* of the month.
Doubling the letters thus: ff., mm., or ll., gives emphasis to the particular period indicated.]

FARM.

October is still an important month for the farmer, in which he husbands with care the remaining crops of his Summer's toil, and with an eye to the approaching Winter forestalls the wants of his household and of his flocks. Any of the operations detailed in our Calendar not attended to last month should now claim early attention, and among the varied sources of recreation and amusement which should occupy some portion of the time during the Autumnal months, do not neglect the

Agricultural Fairs—but show by your own countenance, and the presence of your family, that you take an interest in the improvements going on around you. Examine with a critic's eye the contributions of stock of all kinds, the farming utensils, and the products of field, garden and orchard, and see if there are not some things in one or all of these departments which you might profitably adopt.

Barns and Hovels—See that enough are provided to house all the stock next Winter. If there is any lack, a temporary shelter may be constructed by setting crotched posts into the ground and laying rails over the top, covering the whole with sedge hay, weeds or corn stalks. Board up the sides open to storms and cold winds, and you will have a hovel which will answer a good purpose to feed in by day and shelter animals from the driving storm.

Beets—Dig and store the crops ff. m. or before heavy frosts have injured them. Twist or cut the tops without wounding the crown. Bleeding is injurious to this root.

Beeves—Feed ff. m. while green crops are plenty and Fall pasturage holds out. They will fatten faster and with far less expense now than on corn next Winter. The pumpkins and soft corn can now be fed out to advantage.

Buildings of all kinds—Look to early, and repair the leaky roof, glaze broken windows, nail on the started siding, renew the broken hinges, and fit the tie-ups and stables for their Winter tenants. Have everything in readiness against the cold and storms of next Winter, remembering that the subtle snow finds its way through small chinks and crevices.

Cabbages—Harvest m. ll. at the extreme North, and for keeping through the Winter, lay in a double row with heads down, and bank up with earth, leaving only the roots out of ground. They should be on *dry* ground, and if to be taken out during cold weather in the Winter two boards may be laid up against the sides and straw filled in instead of covering with earth, or they may be *transplanted* to the cellar, setting the roots in sand or earth.

Carrots—Dig and store m. ll. or before the ground freezes. Give the tops to milch cows.

Cattle—Give extra feed now that the pastures afford but little grass. Allow no animal to begin a cold Winter in thin flesh. Milch cows should have all the refuse of the garden, with small roots, pumpkins, corn stalks, &c. Young stock should be well fed the first Winter, and now is the time to begin. Cut and feed the second growth of Chinese Sugar Cane if you have it.

Cellars—See that they are well cleansed previous to receiving fruits and vegetables. Keep well ventilated until too cold to admit air. Clear from rats and mice and bank up those which will not exclude frost. With ample cellar room, many of the fruits and vegetables of the farm may be stored away for marketing in Winter at much higher rates than can now be obtained.

Cisterns—Construct these of ample size for both house and barn. A little labor and expense now will save much time and manure lost by driving cattle half a mile during the Winter, and cutting holes in the ice for them to drink from, to say nothing of the danger of broken limbs from slipping.

Corn—Select the seed at once, if not already done. See page 198, last number. Cut up those fields still standing, and husk early, housing the stalks for Winter fodder. If corn is cut, without being previously topped, as soon as the kernels are well glazed and after curing the fodder a short time in the shock, husked and the butts or stalks mowed away in the barn, both corn and fodder are much better than when left exposed in the fields to sun and rain, heat and frost.

Draining should be continued until wet and heavy grounds are reclaimed.

Grain Stacks—These have stood out as long as profit-storing away in

airy granaries, vermin proof. Save the straw for Winter feed and bedding, rather than allow the cattle to trample the who e under feet at once.

Hemp—Complete harvesting ff. m.

Hogs—Commence giving full feed to fattening hogs. Cook food where practicable, using unripened corn, pumpkins, apples, tomatoes, carrots, &c., stirring in a quantity of Indian meal. Do not neglect their yards, as abundance of the best of manure should be made while the fattening is going on.

Leaves from the Orchard and Forests—Collect ff. m. l. and store in large quantity under cover for Winter bedding, and for hot beds in the Spring. You can not procure too many, nor place too high an estimate upon them as absorbents and fertilizers of themselves.

Manures—Invest both money and time in collecting and manufacturing these, instead of laying out so much to purchase them next Spring. Draw upon the muck swamp, the fallen leaves and mold scrapings of the forests, the turf and loam from the road sides, and use abundantly in cow and horse stables, hog pens, barn and hog yards, and under privies. Plow the yards often to assist absorption, and clean out the sty, privy and hen roosts frequently.

Muck—Dig as long, and as much as possible. You can scarcely have too much.

Paint m. ll. those buildings and fences requiring it. Autumn is best for this operation as the paint strikes in more gradually, and is firmer than if put on in Spring.

Plow stiff or clayey soils, turning them up to the action of air and Winter frosts.

Potatoes—Complete digging f. m. and when convenient put in lime barrels, or dust a little dry lime among those for Winter keeping.

Poultry require a greater supply of meat or fish as their insect food diminishes. Cleanse their roosts often and barrel the contents for guano.

Pumpkins—Gather and house before heavy frosts. Expose in a cool place under cover to as much wind and air as possible and only remove to a cool dry cellar when in actual danger of freezing.

Root Crops—Expose to sun as little as possible while harvesting. If put in stacks or heaps in the field, leave an opening for ventilation, closing only in the severest weather.

Sheep—Supply with salt, and see that their feed is sufficient. Keep the buck from them at present except at the South. Lambs should not come in until warm settled weather in Spring.

Stone Fences or Walls—Build along roads and on lines between neighbors where no changes are required. Besides making substantial fences you are clearing lands for the plow, mowing machine and horse-rake.

Sugar Cane—Cut and press ff. any mature field not harvested last month. Secure the second forage crop before heavy frosts.

Timber—If not cut last month it may still very properly be done. Many prefer leaving it till the fall of the leaf, but August and September are generally considered the most desirable Seasons.

Tools—Read article on "Lard and Resin for Tools," and after coating all iron and steel surfaces, put them away *under cover* until wanted next Season. Re-read "Farmer William's Tool House" in last number.

Turnips—These will need harvesting only at the North during this month. They will continue to grow during frosty nights. Hoe late sowings ff.

Wheat and Rye—Keep cattle and sheep from eating off, unless sown early and having a strong thick stand. Even then feed highly if at all, these allowing a good growth upon the ground when Winter sets in.

Wheat should all have been sown last month. Put in ff. any neglected then.

ORCHARD AND NURSERY.

In the Orchard the chief business will be gathering and storing fruit, which unfortunately, farmers in many localities find a light task this year. Those who have kept their orchards in the best condition have the most and best fruit. Many advocate Pruning at this season, and we much prefer removing large limbs now than in Winter or early Spring, always preferring, however, the Summer. In the early part of this month, is a good time for planting, new Orchards for which suggestions are given on another page. Almost every farmer has some places where a few apple, pear or cherry trees might grow without being in the way, but on the contrary an ornament and shade about buildings, in yards or along fences. A row of Winter apple trees may very properly be set out upon either side of roads, lanes, &c., doing very little harm, and the fruit, being unpalatable, until gathered, is not likely to be carried off.

The Nurseryman will be busily engaged in his semi-annual harvest, this being the season of Fall sales. To fill orders with dispatch, trees should be taken from the Nursery rows and set in a trench near at hand with stakes to mark the division of kinds. From such rows a variety of kinds can readily be selected.

Apples—Pick Winter varieties with care mm. and lay them in the fruit room or barrels at once, leaving the heads off until the sweating process is completed. Try salt and also lime barrels, or lime sprinkled in a portion, and note the results. Keep cool and dry. Buds inserted last month need looking to ff., if the bandages have not already been loosened.

Evergreens may be removed f. m. if done with care. As often stated, Spring is preferable.

Fruit Trees—Apples, Pears and Quinces, may very properly be set out early in this month. It is better to leave the more tender stone fruits, such as Apricots, Peaches and Nectarines, till next Spring. Cherries and Plums succeed well with Fall planting if done early on dry ground.

Grounds for Fall or Spring planting either in orchard or nursery, should now receive a heavy manuring, and be plowed and subsoiled, or trenched. They will be in a planting condition much earlier for it.

Hoes may still be required to remove late weeds which sometimes live through the Winter, if unmolested.

Labels—See that those on standard trees are sufficient for the Winter. In addition to labels, the name of every variety should be recorded in a book for that purpose, so that you may cut buds or grafts with a certainty as to kind. Suffer no single tree, or bundle of one variety to leave the nursery without a plainly written label attached.

Mice—Guard against their ravages both in the orchard and nursery, by removing all weeds, grass and rubbish from about the trees. To protect the trunks of standards, take sheet lead or even tea-chest lead, old floor oil cloths, or birch bark, and encircle their bodies for about ten inches in height, pressing the bottom a little into the earth and slightly banking up about them. Of course they should fit closely to the tree and be removed in the Spring, and laid away for future use. If the season proves wet during late Fall there will be very little danger of mice gnawing the roots beneath the ground. If dry, walk around each tree and use a stick to see if any burroughs have already been made, and if found, place in them corn, meat or other food combined with strychnine or arsenic. Follow this up till the ground freezes, and it is not likely your trees will be injured.

Ornamental and Shade Trees—Plant the deciduous or leaf-shedding, mm. l., or immediately after the Fall of the leaf.

Pruning may still be done, though as above stated we prefer July and August.

Seed Beds—Prepare by deep plowing, and a good dressing on moderately dry soil, where no water will stand during the Winter.

Stone Fruit and hard shelled Nuts—Collect and plant or put in earth at once. Early Spring planting will answer if the seed is put in boxes of earth as soon as ripe and exposed to frosts during the Winter. Some of those requiring this treatment are Apricots, Cherries, Nectarines, Peaches, Plums, Nuts of nearly all kinds, Acorns, Thorns, Buttonwood, Magnolia, Tulip, Dogwood, &c. Apple, Pear and Quince seeds should be treated in the same manner.

KITCHEN AND FRUIT GARDEN.

The gardener will now find employment in harvesting late crops, preparing grounds, sowing cabbages, onions, lettuce, spinach, &c., covering plants and arranging and planting his cold frames with early Spring crops. In gathering late vegetables, he should collect all the tops and small roots, also tomatoes, squashes, &c., not suitable for family use and feed to cattle and hogs.

Asparagus—Prepare grounds and plant new beds f. m. Cut down old growth and cover both old and new beds with coarse manure or stable litter ll.

Bean Poles—Collect ll. and store in Winter quarters.

Beets will not bear much freezing. Harvest m. or before frost. Remove the tops without cutting the crown enough to bleed. Store in cool dry bins away from frost.

Blackberries—Plant mm. l. on deep good soil

Cabbages and Cauliflower—Set those sown last month thickly in a cold frame m. l. to be covered during the Winter. Late growing crops still want working with the plow or horse-hoe. Harvest mature crops ll. and store according to directions above.

Carrots—Dig and store for Winter m. l.

Celery—Continue to earth up ff., in dry weather. Avoid covering the crown of the plant. Pull ll. and put in Winter quarters either in a trench against a fence, covering with straw and boards, or having cut off a portion of the tops and roots set as many as will stand in a barrel and sift in dry sand enough to cover them. Put in another tier and so on until filled, keeping the whole in a dry out-house or cool cellar.

Cold Frames should be in readiness in the early part of the month. They are easily made by setting boards or plank upon edge and nailing them together around a bed of any desired size. It is better to face them toward the South, with a height of one foot in front, and two feet upon

the back. Glass sash are the best covering, but in the absence of these, shutters or even boards will answer. These frames are to be filled with cabbages, cauliflowers, broccoli, lettuce, &c. Set thickly f. m. and cover until they are well established, admitting a little air each day; afterwards the covers may be raised until freezing weather. Upon the approach of Winter, bank up about the frames with earth, manure or litter, and cover the whole with boards, evergreen brush, mats, &c., to protect them from too great a degree of cold and sudden changes. Ventilate during mild Winter weather. Radishes, lettuce and spinach may be sown in them at the time of planting and will afford a very early Spring crop.

Currants and Gooseberries—Set out rooted plants f. m.; make cuttings m. l. for Spring setting, keeping them in dry sand in the cellar.

Grape Vines—Take down tender varieties l. and cover with earth or litter. Even Isabellas and Catawbas are better laid upon the ground than exposed upon the trellis to the sudden changes of our climate during Winter.

Lettuce—Plant f. m. in cold frames. Seed may be sown at the same time.

Mushrooms—Make beds ff. m. Cover them ll. if the weather is severe.

Onions—Cover with litter, straw or brush, ll. those sown last month.

Parsneps—Take up m. ll. what are wanted for Winter use, and bury in sand in the cellar or put in barrels, sifting sand among them. Leave those for Spring use in the ground during Winter.

Potatoes—Complete digging ff. m. Try lime barrels for keeping them in.

Radishes—Scatter seed among the contents of the cold frame ff. m.

Raspberries—Plant ff. m. on rich, deeply worked, rather dry soil. Cover tender varieties with earth m. ll. or before the ground freezes for the Winter.

Rhubarb—Plant Linnaeus or Victoria mm., and sow seed at the same time if new varieties are wanted, though there is perhaps not one chance in a hundred that the same variety will be obtained. The plants come forward much earlier in Spring when set in the Fall.

Salsify—Treat as parsneps.

Seeds—Continue to collect the late varieties for planting another season.

Spinach—Cover ll. the sowings of last month and sow seed f. m. in cold frames.

Squashes—Take in before they freeze and keep in a cool dry place as long as may be, previous to putting in the cellar.

Strawberries may still be planted ff. if not done last month. See page 230. Do not allow old beds to become overrun with weeds and grass.

Turnips are still increasing in size. Harvest Winter-keeping varieties only when severe weather is threatening.

Weeds should decay in the hog pens, rather than in the garden.

FLOWER GARDEN AND LAWN.

These grounds are usually too much neglected this month. In the Spring when planting is generally going on and the unfolding buds of the early blooming bulbs invite to the flower border, we are wont to look among the shrubbery, adding any new varieties which give promise of beauty. But at this comparatively dull season when the beauty has mostly departed, too few have an eye to another year, and they neglect planting those hardy roots, early blooming shrubs, and deciduous shade trees, which give a freer and more beautiful bloom, and often succeed better when planted in the Fall than if left till Spring. A list of these will be found below.

Towards the latter part of the month, after all the flowers have been killed by heavy frost, put the grounds in Winter order with nearly the care usually bestowed on them in the Spring, although much less labor is now required. Cut away all dry and decayed flower stalks, and remove them from the grounds. Gather and house stakes; clean beds and walks from any grass or weeds wrongly allowed to grow in them; rake the gravel smoothly and so arrange everything that as many attractions as possible will greet the eye during the Winter months.

Anemones and Ranunculuses should be planted f. m. The former require much care to succeed well.

Annuals—A few hardy flowers mentioned last month may still be sown ff. to be protected by frames during the Winter.

Bedded Plants—Lift before heavy frosts, and pot for Winter or early Spring blown, Geraniums, Verbenas, Fuchsias, Petunias, &c. Cuttings may now be taken to form new plants of each of the above. Place them in pots at once.

Bulbs—Plant f. m. as directed on page 230. The Flower Garden will not be complete without a good assortment of these.

Carnations and Picotees—Pot the layers which are now rooted, and remove them inside ll., or pack in frames or pits.

Chrysanthemums are now nearly "alone in their glory," most of the other flowers having faded and gone. Keep supported to stakes, cutting away only when killed by hard freezing.

Dahlias and Gladiolas—Mark the different varieties before the blooms disappear, and take up ll. and put in boxes of earth or sand in a cool dry cellar.

Dielytra Spectabilis—Plant mm. l., dividing the roots.

Daisies, Polyanthus and Primroses—Plant in sheltered situations m. l. or cover with frames.

Evergreen Trees and Shrubs—These may be planted now if done with care. As often stated, we prefer May to transplant these in.

Frames—Construct as described under Kitchen Garden for half hardy plants, requiring a slight Winter protection.

Grass and Gravel—Keep both in good order, raking off the leaves and keeping free from weeds.

Grounds for Spring planting will be improved by thorough digging and trenching this Fall.

Pæonies—Transplant, or plant out both the herbaceous and tree varieties mm. l. By planting now they will bloom more freely next Spring, than if left till that time.

Perennial Plants and roots may all be divided and reset the latter part of this month.

Pits for Flowers—These can be cheaply constructed in accordance with the plan described on page 79 of the present volume (April No.).

Seeds—Gather any late varieties as fast as they ripen. Dry them thoroughly and label.

Shrubs—Plant Pyrus Japonica, Dwarf Almond, Hardy Azalias, Sweet Scented Shrubs, Scotch Broom, Mezereon, Deutzias, Honeysuckles, Euonymus, Altheas, Hydrangeas, Jasmine, Privet, Mahonias, Syringas, Flowering Currants, Spiræas, Snowberry, Lilacs, Viburnums, Roses and Chinese Weigelia. These are desirable hardy shrubs, many of them blooming quite early in the season, and on this account do best with Fall planting.

Stocks and Wall Flowers—Take up and pot, carrying to green house or pits.

Trees—Plant deciduous ornamental and shade trees mm. l., unless they are of tender species, when the planting better be deferred till Spring.

GREEN AND HOT HOUSES.

Having thoroughly cleansed and repaired these as directed last month, the flues and furnaces being in readiness to start fires at any moment, look to those plants still out, and bring them in as they require it. The more tender ones will need housing ff. while some may remain in the borders or pots m. to l. Cleanse from moss and remove all decayed leaves while bringing in. Unless there are several houses of different temperatures the plants must be arranged with reference to the heat of one room, placing some near and others at a distance from the furnace. Group them according to their kinds by placing succulents together, bulbs and orchids by themselves, and woody plants in another collection.

Air should be admitted very freely, especially when plants are first brought in.

Fires—These will need starting in houses of tropical plants f. m. The particular temperature of each room, must be regulated by the collection it contains.

Fuchsias—Cut in and place those which are done blooming on dry shelves.

Insects—Do not allow them to get a footing. A determined resistance with oil soap, tobacco fumes and the syringe will keep them in check.

THE APIARY.

BY M. QUINBY.

All the surplus boxes should now be taken from the hives. While waiting for some unfinished combs to be sealed up, the bees may remove the honey in these cells to the hive below, where an addition to their stores is not always needed.

If neglected till now, dispose of all feeble or diseased stocks at once. Any family of bees sufficiently numerous, that is desired as a stock, with insufficient stores for Winter, may be fed to advantage this month, providing they have combs to hold it, without constructing new. Good honey is the most reliable for Winter stores. That from the West Indies is cheapest, and will do well enough by adding a little water, then scalding and skimming it. The best way to exclude robbers in feeding is to place the honey under a close box set on the top of the hive with holes open for communication. Should a tin dish be used to hold the honey, the steep sides need something, say a strip of wood, to assist the bees in creeping up. In the dish put some shavings or light material to keep the bees from getting drowned. Bees can be fed with much less trouble, when some of the surplus boxes only part full, can be spared to set over them. The dry combs left in such boxes are very valuable for another year.

To be safe for winter, the contents, exclusive of the hive, should not be much less than twenty-five pounds to a stock.

FARM SURROUNDINGS.

NUMBER VII—GEESE DUCKS AND PIGEONS.

Next in size to the turkey, in the poultry line, is the goose. Now the *common* goose, one of the road-ranging, fence-creeping, cackling, squalling tribe of nuisances that infest every highway, alley, and common, where a shanty is squatted down, or a lawless family chooses to harbor them to the annoyance of well-to-do, honest, country people, we have nothing to say about. They have no business in the highway at any rate, nor in *anybody's* premises where there is not plenty of water accommodation, and a close pasture for them. They were, to be sure, in past days, good for their feathers, when people knew no better than to sleep on feather beds, and had no more humanity than to pluck the poor brutes three or four times a year of their coverings to make them with. Feathers are good and useful, indeed, now-a-days, for various purposes, but not according to our notions, to be obtained in the barbarous manner we have named.

Geese may be kept to decided advantage where water abounds, bordered by good pasturage. On sluggish, sedgy streams, for instance, or ponds, or brooks, or bays—anywhere, in fact, where water is accessible, and their presence will do no harm. Their flesh is excellent and nutritious; and although we have known many people who think a goose not fit for the table, yet he who knows not the virtues of a fine young "roast goose with apple sauce," knows little of one of the greatest luxuries that can be set before him. Therefore, with the conveniences above stipulated, the goose is a part of our domestic economy and farm stock. Yet, admitting the goose to our premises, it is by no means to be the vulgar, common thing we have described at the beginning. It should be of the most refined and aristocratic varieties—the *barn-yard* aristocracy we mean—and such as in its appearance and habits will be creditable to your good taste and judgment, a few of which we will describe.

The Bremen is a large fine bird, of twenty pounds weight at full size and age; white in color, both male and female; domestic and quiet in habit; full in body and shape; delicate in flesh; and will give you a gosling that at six months old weighs twelve or fifteen pounds when well fed and dressed. It is hardy, a good layer, a faithful nurse, and every way a fine bird. A Bremen gander put with two or three well-selected common geese, will breed you a five drove of goslings, when you cannot have a sufficiency of thorough-bred females to raise a supply for the table.

The African, or Hong-Kong, is the largest and noblest bird of the goose tribe. It will weigh twenty-five pounds at maturity, has a delicate flesh, and will take on fat amazingly at an early age. The beauty of its ashy plumage, commencing with the dark stripe down its head, and neck, from its high knobbed, black bill, down to its body, long, arching, and swan-like, with golden iris round its deep hazle eye, and capacious form as it sets gracefully on the water, make it a noble bird. Its cry, too, is musical, and where plenty of water can be allowed for its marine exercises, it is a beautiful object to look upon, and have about you. It has nearly the grace and quite the beauty, on the water, of a swan.

The White China is less in size, about half that of the African, but equally beautiful on land or water, and, in form, like it in all particulars. It is snow white in plumage, with an orange bill and legs, and a voice clear and clarion in its cry, like the other.

The Black China is less than the White in size, darker in color than the African, with black bill

and legs,—a wonderful noisy, busy-body, yet very domestic and kind in its habits, and its cry the same as the others.

All these foreign tribes of geese are hardy; but they lay too early in our climate, and for that reason are shy breeders. Thus they should be kept as ornaments, chiefly, to the place, and to grace your park, pasture, and water. Either variety of these *ganders* are valuable to cross with the common goose, to give you a fine flock of goslings in the Fall of the year, the mother being equally prolific, thus crossed, as if bred with a common gander, and the gosling much better fleshed. We have reared all those varieties in their purity, and in crosses, for many years past, and are perfectly satisfied with them as an ornamental and useful bird. The hybrids, or mongrels of either sex will not breed, and therefore should be brought to the table before they are a year old.

DUCKS.

The Duck stands next in our category of water fowls; and the ordinary household duck is so common a thing in its human companionship about the habitations of many people, and as a table dish, that it is hardly necessary to describe it. For rearing them conveniently and profitably, an allowance of water is needed, although not in such a quantity as for the goose. There are several superior kinds of the duck besides the common, such as the Rouen, the Aylesbury, and perhaps another or two—all of large size, beautiful plumage, and excellent flesh, which may be cultivated for fancy, and their fine appearance. If you want to know particulars about any of these, we refer you to our friend, John Giles, Esq., of Woodstock, Conn., who has a taste and fancy in all kinds of fowl that few people possess, and keeps every variety worth having which he can lay his hands upon, both foreign and domestic. The rest the books will tell you. We commend these fine birds to all those who have the proper conveniences for keeping them; and although not so stately and ornamental as the African and Chinese Geese, in a pond, or a lake, they furnish a decided ornament to a near water view, aside from their excellence as an article of diet. We like ducks about the place, decidedly, when kept away from the door-yard.

PIGEONS.

These graceful and familiar birds fill a department not at all occupied by any other class of poultry usually kept. They are beautiful objects, flying and alighting about the premises, hovering over the out-buildings and yards, picking up the scattered fragments thrown out among the larger stock, or left in the grain fields, and when proper conveniences can be furnished, they should always be a part of the feathered population of the homestead. They are excellent for the table, particularly the "squabs," just as they are fully feathered, which is decidedly the best age for that purpose. They will breed five or six times a year, and with a trifle of attention multiply amazingly.

As to varieties, there are many; and those who have a taste for the fancy kinds may choose among either, or all, of Carriers, Tumblers, Fantails, Pouters, or whatever other variety may be named. Yet, be it understood, that as all the family are gregarious, flying and intermixing with each other in their neighborhood rambles, the fancy breeds must be confined and kept strictly with themselves, or the whole dove-cote will in a short time be of every variety, color and complexion belonging to either. The trouble, therefore, of keeping fancy kinds must be well considered before it is undertaken; and if you keep but one variety of fancy pigeons, even in case they fly at large, the chances are that as your neighbors breed only the common kind, they will, in a few months, become so inter-

mixed that your pleasure in the production of the pure fancy bird will be destroyed. Therefore, unless your accommodations be remarkably good for keeping them separate, and none of the common kind are near to interfere with your own birds, you had better adopt only such as are common in your vicinity. The fancy pigeons are less hardy, and frequently less prolific than the common kind, are no better for the table, and, unless you are all away by yourself, a great deal of trouble.

It is a little odd that poultry books do not treat of pigeons as they do of other domestic fowls; for, among the several treatises in our library—and, by the way, for some of these treatises aforesaid we have very little respect—we find none that do the domestic pigeon even the honor of mention; or, if so, they give us no valuable instruction about their breeds and modes of rearing. Fortunately, however, the breeding of pigeons is a simple affair. A snug box inside of almost any out-building, where it is secure from rats, minks, weazels, cats, and birds of prey, with a passage out into the open air, is all that need be required for common use. These boxes and outlets may be multiplied to accommodate any number of birds; yet, where an ornamental dove-cote is desirable, it may be constructed after any model your taste or fancy may suggest. One of the best we ever saw, and which we would adopt as a model, were we to construct a new one for our own use, we saw at the pleasant farm residence of Rev. R. J. Breckinridge, D.D., near Lexington, Ky., a year ago. It stood by itself, near the principal out-buildings of the farm, and consisted simply of four posts set in the ground, perhaps fifteen high, in a square form, six or eight feet apart. About ten feet above the ground were four sills framed into the posts, and at six or seven feet above them four corresponding plates on the top of them. Over these plates was thrown a roof in the common way. The sides all round between the sills and plates, was securely boarded up, and on the sills was laid a floor. One front of the huge box, or house, as it now became, after being so enclosed, was pierced with tiers of pigeon holes, outside and inside of which were shelves for lighting upon. On the opposite side to the entrances was the door to admit the person having charge of the house. On the other two sides, within, were tiers of continuous partitioned boxes built over each other, with eight or ten inches space between to admit examination, and the taking out of the birds. Thus, on their entrance into the cote, the whole space was in common for each pair to select their own nesting apartment, scores of which, when we saw them, were occupied by eggs and young birds. That the plan was a good one was proved by the multitude of pigeons inhabiting it, which had made it for years their domicile. A flight of *movable* steps ascended to the door on the rear, which was secured by a lock; and the steps removed, the cote was rat proof. In the severest Winters a dove cote on this plan might be too cold, and in the excessive heat of Summer too hot; but with an inside lining, and a body of tan-bark, or saw-dust, between that and the outer boarding, the extremes of heat and cold would be avoided. A dove-cote of this kind might be made quite ornamental among the out-buildings of the place, as well as to serve the purpose of simple utility.

Pigeons are usually great favorites with children, and where the children are, if not too troublesome, pigeons should be kept; or, to the country dweller, generally, they are useful and agreeable appendages to the homestead. We have kept them many years, we love their companionship, and would not willingly be without them.

We ought, perhaps, to apologize for treating so much at length on creatures which may, by many, be thought trivial in their interest, or profit; but as

every one whose home is beyond the smoke and grime of the city, ought to surround himself with all that can add to his domestic pleasures, we shall, at another time, talk of Peacocks and Guinea hens—possibly of honey bees and terrier dogs, and the fish pond, all of which we have had about us—and shall continue to complete the population of a full country establishment.

MECHANICAL PREPARATION OF THE SOIL.

NO. VI—DRAINING.

[Continued from page 199.]

In order to make our articles as complete as possible, we continue a brief description of the various modes adopted for draining. Those referred to in the first two columns below have been practiced in Great Britain, though but little known in this country. We have for several reasons reserved to the closing chapters of this subject the fuller discussion of stone-drains, and especially of tile-drains which are soon to be one of the prominent features of agricultural improvement in this country.

SHEEP DRAINS.—In permanent grass lands, it is often profitable to make small open drains. On hilly land, one method is to run at short intervals a number of furrows along the sides of the hills, with a gradual descent towards the base. The lower side of the drain, formed by the turning down of the furrow, is then rounded off with a spade or shovel, the upper edge of the furrow being also sloped at the same time; and the whole drain is then seeded over with grass. Such drains will gradually conduct the water to the bottom of the hill without producing serious injury by washing, and with little loss of surface. They are only practicable in sheep pastures, and are hence called *sheep drains*. Larger animals would soon tramp down the sides of the drains and destroy them. Another kind of sheep drain is shown in the following figure:

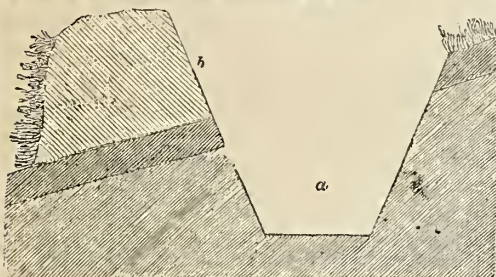


Fig. 6.

The original surface of the soil upon the side hill is shown by the dark strip through the middle. A portion of the earth has been removed from *a*, and turned over upon the down hill side at *b*. Where the sides are made sufficiently slanting these drains may answer a temporary good purpose, or even a permanent one on sheep pastures.

A covered sheep drain is sometimes constructed as represented in the following figure.

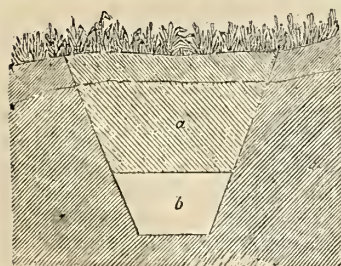


Fig. 7.

This drain is made by cutting a ditch about one and a half feet deep and of the same width at the surface contracting it to about half a foot in width at the bottom. The first sod is carefully cut out entire and laid aside; the rest of the soil is next thrown out, and the sod then returned and pressed down by tramping upon its

two edges, till it leaves the space shown at *b*. A part of the remaining earth is then returned into the ditch, and slightly rounded to make up for any loss from settling.

In figure 8, we have a modification of the same kind of drain, adapted only to a hard clay subsoil, so compact that the sides of the open space *o* will retain their place. Above this is a layer of peat, with the cultivated soil *r*, over it. There are few cases where either of the kinds of drains here described would be permanent enough to pay the expense of construction. The washing of water, the digging of moles and mice, and even the light tread of sheep will be likely to injure, and soon render them worse than useless.

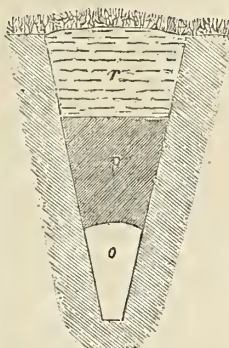


Fig. 8.

BOG DRAINS.—These are not unlike the last named and are often useful where a tough bog or moss rests upon clay. They are formed by cutting out a heavy square piece of turf *ebc* (fig. 9), from the top, and the smaller pieces, *a, c, c*. The narrow channel *d*, is then made in the clay, leaving the shoulders *e, e*, four to six inches broad. The first piece taken out is then inverted over *d*, and the other portion then put in as shown in the upper part of the figure.

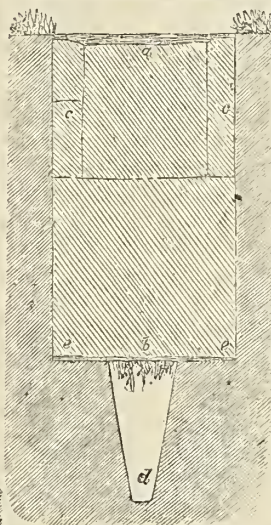


Fig. 9.

Such drains have sometimes been sunk to the depth of six feet. Where moss bog to be so drained is very open or spongy, a cutting of only 1½ to 2 feet should be made at a time, and then wait a few months for the water to drain and the bog to settle, when another similar cutting may be made. After the ditch is completed it should also be left a few months until the ground is dry and compacted, when the filling may be put in.

There are probably few places where such drains would be profitable, since any want of compactness in the turf or clay around *d*, or the occurrence of any little beds or veins of sand or loose earth, would cause them soon to fill up. In many cases it would be found preferable to line the sides of *d* with wood, tile or stone, resting upon a thick board or a plank at the bottom.

Peat-tile-drains are sometimes used where a compact clay bottom can not be reached. These, as shown in fig. 10, are made by placing together two pieces of turf *a* and *b*. It will be seen that by inverting the upper upon the lower piece the rounded portion *b* will fit into the opening in the upper side of *a*. With a peculiar shaped cutting tool made expressly for the purpose, these tiles are cut off from the end of a piece of turf, the cutting of one piece making the half-circular opening in the next. It is stated that with proper tools a man will cut 2,000 to 3,000 of these

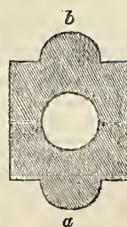


Fig. 10.

peat-tiles in a day. The peculiar advantages of this sort of drains are, that they can be constructed where the bog is not solid enough to support a tile or stone drain; and they may also be cheaply made, as all the materials are at hand for their construction. Besides the peculiar tool required for the peat-tiles, and a common edging knife for trimming the sides, the three implements next shown are useful, not only for the drains already referred to, but also for several kinds yet to be described.

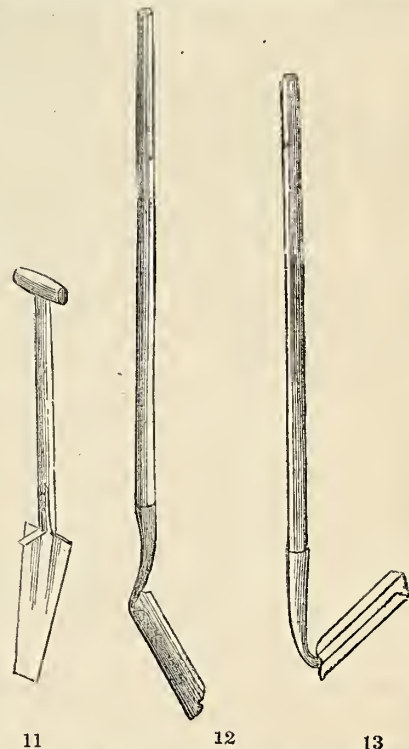


Fig. 11, is a long tapering spade, with an iron spur placed any where upon the handle for the foot to rest upon in pushing the implement down; figs. 12 and 13 are simply long-handled, narrow scoops for clearing out the bottom of drains.

WELL DRAINS.—This method of draining is very useful in some special localities, where there are wet spots resulting from particular arrangements of the soil and sub-soil. The following figure will give an idea of one of these cases.



Fig. 14.

s, is a somewhat porous surface soil. Below this *c*, is a compact layer of clay, impervious to water; *o*, is an open porous soil below the clay, which may have some near or distant outlet, so as to be comparatively dry at all times of the year. It is evident that in the hollows, *w, w*, the water will collect and remain, producing a wet spot even in the porous surface soil. If at *w*, we dig a small well or opening through the clay, and fill it up with loose stones covered over a little above the clay with turf, shavings or straw to keep the spaces between the stones from being filled up with loose dirt, it is plain that the water before held in the hollows by the clay, will now flow away through the open soil *o*. Cases like this are by no means uncommon.

If a valley is large, and there is no other convenient outlet, drains may be made down its sides, conveying water into a large well drain in

he lowest place. Care should be taken to have the top of the well-drain below the reach of the plow; and to keep the cavities between the stones well secured from becoming choked up. Where there is a large quantity of water, it is better to build the stones up in the form of a well or vault leaving an opening in the center, and cover over the surface with a flat stone. We had just such a case as this in our experience, in the western part of this State. A few rods from our dwelling, was situated a valley, which received the water from a large space around. In the center of this hollow we dug down a large opening, some six by ten feet, till we reached a very open soil below, perhaps eight feet from the surface. Still below this we found a large seam in the limestone rock, forming a natural water passage to—we know not where. The opening was then walled up leaving a cistern-like vault in the center, which was covered over with plank, stone and soil. This served not only to speedily discharge the water collecting in the hollow, but we afterwards conducted into it the drains from our cellar, pump and cistern; and for sixteen years it has continued to effectually carry away all water from whatever source. Generally these well-drains may be made very small and at a trifling expense, and often a whole field may be drained by sinking these wells in the center of local wet spots. An examination of the under soil, or the trial of an open well, is generally the only means of ascertaining where such drains will be effected. It is but little work to sink down an open hole a few feet deep in a wet spot, and allow it to remain open awhile to ascertain whether it will hold water or discharge it downward.

WOOD DRAINS.—There are so many methods of constructing wood drains, that it would far exceed our limits to enumerate and describe them; and furthermore no method of filling with wood, drains which should be permanent, can be recommended except in rare cases. The decay of wood in most moist situations is rapid, and this decay itself furnishes the materials for filling up and spoiling such drains. One plan is to fill the ditch with willows, pine branches, or other kinds of brush, and then cover them over with earth. Another method is to construct a kind of tubes, by nailing together plank pierced at short intervals with small augur holes. These are so much more expensive than tile drains, which answer a better purpose, that we will not stop to describe them.

Another plan, which has in one instance at least been for the time successful, is to dig the ditch two or three feet deep into a solid clay, making the bottom 12 or 14 inches wide. Logs eight or ten inches in diameter are split into halves, and one of these halves is laid lengthwise upon each side of the bottom, the round side being placed downwards; the joinings of these should break joints opposite to each other. Short boards 12 or 14 inches long are then placed across these and covered with turf, leaves, shavings, or straw, and the ditch is then filled up with the original soil. In very moist soils such a drain would be improved by first putting in a layer of cross boards at the bottom, then upon these the split logs or string pieces and over these the boards. Instead of boards, thick rived staves or shingles might be used to advantage. With a cross-cut saw, logs can be cut up into blocks of the required length, and these are easily split into thicker or thinner pieces for the bottom and top of the ditches. We think this the simplest and cheapest kind of wood-drains when safety and comparative durability are taken into account; and in situations where tile or stone can not be

procured, and where durable timber is abundant, this plan may be adopted with advantage.

STONE DRAINS.—In a very large majority of cases where draining is to be done, tile or stone drains will be found far preferable to any of the methods yet described. We are quite sure that tile drains, of all others, are the cheapest in most cases, and that they will generally be adopted; yet we think this may sometimes be done too hastily, and without a due estimation of some of the peculiar advantages of stone drains,—for though tile drains are usually more easily and cheaply constructed, where tiles can readily be procured, yet in other situations stone drains are sometimes more available, and they have in many cases stood the trials of centuries; and if rightly constructed, we think they give more certain promise of permanent effectiveness.

There are various methods of filling drains with stones, one of which is shown in the next illustration, fig. 15

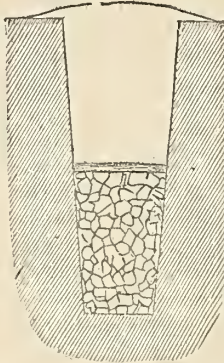


fig. 15.

that has been thrown out in digging.

Where stones abound, we have seen these drains made two to three feet wide at the bottom. We have in mind one case where the soil was so stony that it was entirely dug over, and a continuous bed of stones a foot thick was laid over the whole field two feet from the surface. The owner of the land informed us that the profit of the first two crops paid the whole expense of digging the soil to the depth of three feet, while previously nothing had grown upon the field, owing to its springy and stony character.

A second method is illustrated by fig. 16.

The drain is cut wedge-shaped at the bottom, and two flat stones are put in upon the sides, meeting in an angle at the lowest point, and spread apart from each other at the upper edges. Upon the top of these a flat stone is laid. This must be wide enough to extend across the drain so as to be kept in place by the sides. When these three flat stones are thus laid, they will form an open drain between them, a section of which may be seen at *a*, fig. 16. Above this, the drain is partly filled with small stones, covered over with gravel or some vegetable substance *c*, and the space *d*, above filled with earth.

A third method is shown in fig. 17. This differs from the second method in the manner of arranging the three stones forming the three-sided opening, *a*. The drain is left square at the bottom, a flat stone is laid in, and the two other stones are set upon this at the sides of the drain,

and then leaned against each other at the top, or one of the stones is wider and lies over the upper edge of the other. In either case there is left the opening *a*, fig. 17, and above them is placed the layer of small stones as before described.

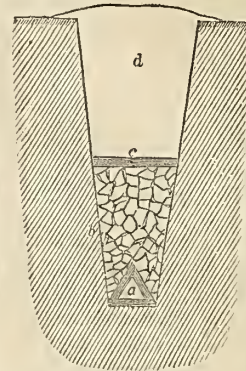


fig. 17.

ing-in of the side stones. Great care is needed in putting in the upper layer of small stones, and after the completion of the drain, there is still danger of some such displacement in a long drain. 2d, in fig. 16, when there is but a small quantity of water, it will be compressed within the narrower channel in the lower part, and on this account there will be a strong current to wash out any sand or clay that may have found its way into the drain; while in fig. 17, a small quantity of water will be so much spread over the bottom as to diminish its current, and hence the greater liability of clogging up.

But in a less compact soil, fig. 17 would be preferable, since the flat stone at the bottom gives a good foundation for the rest of the filling up, and this would be safer than the arrangement in fig. 16, where the side-stones rest simply upon the soil, and may be pressed out of place.

As before hinted, the character of the soil, the quantity of water to be conveyed away, and especially the kind and quantity of stones that can be most cheaply obtained, must decide which of these several kinds of stone drains is best adapted to a particular farm or locality. Where small stones only can be obtained, the first method must necessarily be adopted. Where a small quantity only of suitable flat stones, with an abundance of small ones, can be obtained, then the third or fourth method would be the best.

DEPTH OF STONE DRAINS.—The general depth of drains, dependent upon the character of the soil drained, will be discussed in our general remarks upon this subject. Stone drains, especially, need to be made deep, from the depth of filling they require. They, like all covered drains, should be placed entirely below reach of the plow. The common depth of plowing, now practiced, should not be taken as any guide here; for in many fields, and indeed on most farms, the plow has seldom penetrated below six inches from the surface. But a better system is coming into practice. We are quite sure the time is not far distant when most land will be generally broken up with the surface plow at least twelve inches deep, and then six or eight inches deeper with the subsoil plow. After lands have been freed from water for a year or two, by draining, we have every reason to believe, that the deeper they can be stirred and pulverized, the greater will be the produce. The top of the stone filling should then be at least 18 or 20 inches below the surface. Seven inches more should be allowed for the duct in the bottom of the third or fourth methods, (figs. 16 and 17.) The depth of stone above the duct will depend upon the character of the soil, the abundance of materials for filling, and the distance of the drains from each other.

er. The side of the drain constitutes a *drawing* surface. If the soil is compact, the wider this surface, and the more effectual will be the draining. In clay land, it is desirable to have a layer of loose stones, 12 inches deep. Less than this will answer in a soil that presents less resistance to the water. These circumstances taken into consideration, the drain should in all cases be sunk not less than 34 to 40 inches deep, according to porosity of the soil. In our general remarks, we shall present other reasons for constructing all kinds of drains even deeper than this, in most cases.

THE SEWING MACHINE

An almost unlimited number of inquiries from our readers, on this topic, aside from our own personal interest in the matter, as a purchaser, has induced us to devote considerable time to investigating not only the respective claims of different machines offered to the public, but also whether even the best of them would be a paying investment. On the latter point we have become fully convinced that *nearly* all kinds of family sewing can be done more rapidly, and even better by machinery than by hand. We consider the difference in this respect as fully equal to that of threshing grain by a machine and by hand. Take a single illustration. The other evening on going home we found a sheet just "hasted," ready to be hemmed or stitched. Though we have never learned to use a thimble, (having always been favored with a kind mother, sister, wife or friend, to do all needed stitching,) on the above occasion we proposed to turn *seamster*, and stitch the sheet. The result of the trial was, we stitched the edges of the sheet, at the rate of a yard, in three minutes, "including stoppings," and some good judges, present, pronounced our work not to be excelled in fineness, regularity and beauty of stitch, by the best hand sewer. This was our first trial on actual needle-work—we had played sew, with pieces of cloth, a dozen times before. We have since far excelled our first effort. Any of our lady readers can estimate the advantages of sewing a close, fine, strong stitch, even at only the rate of a yard in three minutes.

We could give many illustrations that have already been developed in our own family in less than one month's trial; but it may suffice to say that where there is much sewing to be done in a family—and where is there not?—it is cheaper to employ a good machine, even if it cost \$200 or \$300, or more. Suppose a housewife could, with a machine, do up her family sewing during a year, *easier* than by working with a needle and having the assistance of a seamstress five weeks. This would save, in wages and board, say \$25, which would pay the interest on \$200, and leave \$11 for wear and repair. We estimate the saving as greater than this, and we are free to say that, looking at the subject in barely an economical point of view, if our machine could not be replaced, we would not part with it for \$400 or \$500. The cost was \$125—\$110 for the machine itself, and \$15 for having it put in an extra cabinet, which serves the triple purpose of a table, work-stand, small chest of drawers, besides being a handsome piece of "furniture."

With regard to the difficulty of using the sewing machine, on which point many inquiries have been made of us, we think it requires just about the same degree of skill, or "gumption," as the Yankees term it, to use a sewing machine successfully, that it does to operate a common grain-thresher, or a mowing machine. Our own was sent home with only the manufacturers' printed directions, and it has been worked successfully.

Others have found some difficulty, though not of an insurmountable character where a good machine has been obtained. [A lady in Ohio wrote us an instructive chapter on the various difficulties in her first experience,* which we intended to have published, but we have mislaid her letter, and have not her Post-Office address. Will she please write again?]

As to the best *kind* of sewing machines, we are loth to say a word, and have no interest in doing so. There are three, perhaps four kinds now before the public, either of which is better than no kind. We have found none of them sold at less than \$85 to \$100 and upward, which we considered worth buying. Wheeler & Wilson's, Singer's, and Grover & Baker's machines, all work under Howe's patent, and are, so far, the best machines made, we think. We were interested in witnessing the operation of Robinson & Roper's, but not enough to give it any preference over the others. For our own family use, we became fully satisfied that Grover & Baker's machine is the best, and we accordingly purchased it.

From among the many letters on this topic, from ladies who have used the sewing machines, we have only room for the following, from ANNA HOPE, whose contributions on Household Economy are familiar to many of the older readers of this Journal.

To the Editor of the American Agriculturist.

An intelligent farmer would despise himself if he failed to make subservient to his interests any improvement in agricultural implements, or neglected to derive advantage from any new invention of which his circumstances would permit him to avail himself. That the more expensive implements find many purchasers, may be readily seen from the sales books of firms who deal in them. One such house of my acquaintance has sold this year about two thousand mowing machines, and from two to three thousand threshers, the prices of which are \$120 and \$130, and these machines are of course needed only for a few weeks in the year. That the purchase of them is good economy, may fairly be inferred from the fact that so many are sold, and that they give so good satisfaction. We rejoice in all these helps afforded to *men* to make their labor easier or more productive, and we wish most fervently that *woman* might be equally relieved in her own sphere of labor; nor are we unmindful that whatever diminishes the number of "hands" on a farm, diminishes the number of mouths to be fed, and the number of dishes to be washed, and thus indirectly makes the labor of the house less burdensome. But woman needs "aid and comfort" designed expressly for herself. She is too often considered very much of an agricultural implement—a piece of property secured at the altar—to be employed in any way that will add most, with the least outlay, to the money income of the farm, and she is not always cared for with the same watchfulness and anxiety that is bestowed on the horses and cattle of her husband. They must not be neglected, nor over-worked, but she, poor creature, is never supposed to be weary nor over-burdened. This idea of property in woman is a remnant of barbarism, when brute force was the basis of power, and is an indication of remaining barbarism in the so-called civilized world. The more thoroughly the world becomes civilized and Christianized, the more general will be the recognition of woman as an individual *embodied soul*, with wants and capacities no less numerous and actual than man's, and whatever will contribute to her comfort will be deemed no less important than what contributes to his.

The inventive genius of the present age is beginning to develop itself in mechanical contrivances for the relief of woman, and none of these are destined to prove a greater blessing than that of the Sewing Machine. Many a life has been sacrificed in unremitting toil, and the needle has pierced more hearts than the stiletto or sword, but a brighter day is dawning, and the sewing of a family need no longer be locked upon with trembling and dread. For several years I have been much interested in sewing machines, as a means of emancipation to woman, and have examined with great interest every new improvement that came to my knowledge. The price alone deterred me from long ago availing myself of the services of one, for after seeing how quickly and well they did their work, I could not be satisfied with the slow progress made by my fingers, and I could not feel that I was bringing myself down to the level of mere matter, if I willingly did what a machine could do much better and more rapidly. At length I grew desperate, for I was haunted by unfinished work, and it would neither "down," nor be done at my bidding, nor by my persevering efforts. Wherever I went, shirts with outstretched sleeves and dangling wrist-bands hung in mid-air before my eyes, hurling defiance at me, like some evil genius of fairy times, and grinning with most hideous triumph. For months these frightful spirits tormented me, but, thanks to the Inventor of Sewing Machines I at length found a spell powerful enough to "lay them," and since I have used it, not one has dared to show his ugly head. Shirts are now no longer frisked about in the air by hobgoblins, but remain quietly in the drawer, and do not at all detract from my happiness, for to make one is but the work of a few hours, and I have leisure to look at the "estrays" buttons. I am not, by any means, the only woman whose peace has been disturbed by necessary but unaccomplished work. I have had abundance of sympathy in these trials, and now I should be most happy to enjoy equal sympathy in the relief I have found from them.

For several months I have used in my family one of Grover & Baker's Cabinet Machines, and have found it capable of accomplishing all I expected from it, and all that it promised. I have done upon it every variety of family sewing, from muslin sleeves to dresses and pantaloons, and the work has proved equally strong and durable as sewing done by hand. I never feel hurried in my sewing, nor do I feel that I have not leisure for rest. I can afford time for an excursion with my children, without neglecting any necessary work, and I have no twinges of conscience when I sit down to read a newspaper or a book. It is not simply because of the actual work done that a Sewing Machine is one of the richest of family blessings, but it possesses a high value in bringing with it freedom from wearying care and anxiety. There are few families that do not need the relief such a seamstress would afford, and perhaps none need it more than those of farmers, for their domestic cares and labors are usually numerous and pressing. There is certainly no class of persons for whom I feel a deeper interest, or a more earnest respect, for the blood of farmers flows in my veins, and with it a most ardent love of country life; and if by adding my testimony to that of others in regard to the value of a Machine which may bring relief to my over-burdened sisters, I can do ought to benefit them, I am happy to give them the result of my experience. I know something of their toil, of their weariness, of their need of relaxation, and I would fain introduce to their notice that which will lighten the toil, diminish

the weariness, and give them leisure for social enjoyment.

This is indeed "a working-day world," but one not alone for work for the *body*. It must be cared for, but the mind, the heart, the soul, must not be neglected. Every Mother has a higher duty to perform than to feed and clothe her children. They are to be educated, and to be educated for Heaven, and whatever will enable her to give more time to this nobler work is to her and hers no small blessing. What if Sewing Machines are expensive? They are no more so than Mowers and Threshers, and *money* should not be weighed in the balance against *time*, for on one depends only the lower needs of this life, while on the proper use of the other depends our eternal destiny. Next to the gospel, I consider the general introduction of the Sewing Machine the best gift to woman, for it gives her time to cultivate her own higher nature, and to devote herself more fully to the best interests of her children.

ANNA HOPE.

LIEBIG'S LAST LETTER ON MANURES.

To the Editor of the American Agriculturist.

In Liebig's third and last letter on Agricultural Chemistry, lately published, he says: "It is therefore impossible to attribute the effect of stall manure to its combustible elements; if these have any good effects it is of a subordinate nature. The effect of the stall manure rests, without the least doubt, upon the amount of the incombustible elements of plants which it contains." If this doctrine is true, it is folly for a farmer to save his stable manure from the waste of firefang, and too rapid decomposition, as the ashes of the manure contain the only elements of much value to vegetable nutrition. But every farmer's experience and experiments in manuring and culture, disprove this darling theory of the great Chemist of Giessen. A conclusive proof of the fallacy of this mineral theory, is found in the very thorough experiments of J. B. Lawes and Dr. Gilbert, on the experimental farm at Rothamsted, England. There, during five consecutive seasons, an acre plot of land destitute of organic matter, was treated with all the mineral elements sufficient for a maximum crop, and sown with wheat. Another acre of the same soil, treated in the same manner, received an addition of 300 pounds of the sulphate of ammonia: when, at harvest, this plot, thus treated with ammonia salts, produced double the number of bushels of wheat contained on the other plot; like experiments afterwards produced the same results.

It is true that the atmosphere will supply growing plants with carbon, in the form of carbonic acid, enough for the structure of a maximum crop, but if the soil is deficient in nitrogen the crop will invariably be short; this is not only in accordance with repeated experiments at Rothamsted, but with every farmer's experience, which teaches him that a manure heap that has not lost its ammonia by firefang, or combustion, is a much better manure than the ashes of the burned pile.

It is no reason, because growing plants receive that which forms their principal bulk from the atmosphere, carbon and the elements of water, that they also receive from thence a sufficiency of nitrogen in the form of ammonia. True, nitrogen forms but a small part in the composition of a plant; but its office is mainly as a solvent of silica (!) and preparer of other matters in the soil, into soluble plant-food. True, no plant can grow without the elements of its ashes, but the mineral

soil is composed of these elements, and it gives them up by disintegration, long after the organic or combustible matter of the soil has been exhausted by growing crops. Again, those mineral elements are never lost in the decaying vegetable; the falling leaf, and the decaying thistle, may die and lose their organic matter in the air, but the ashes remain to form the mineral basis for new plants.

S. W.

Waterloo, Sept. 11, 1857.



HORSE FOR SHOCKING CORN.

The above cut represents a simple apparatus which may be used in shocking corn. The pole *a* is three or four inches in diameter, and say ten feet long. Its size may vary with the weight of the wood. It is supported on two legs, which are simply round sticks fitted into auger holes. A round stick *b*, three or four feet long, passes loosely through an auger hole, say 1½ feet from the upper end of the pole *a*. The whole is made sufficiently light to be taken up in one hand and carried from place to place. As the corn is cut up it is placed in the four angles formed by the pin *b*. When the shock is of the desired size it is tied, the pin *b* drawn out first, and then the pole *a*. It will be seen that the whole thing is exceedingly simple; with only an ax and an auger any one could go into the woods and make one in less than an hour.

CHINESE SUGAR CANE.

HINTS UPON SYRUP-MAKING, ETC.

We have not much to add to last month's suggestions. Many persons have applied to us to procure them a simple, low-priced mill for pressing out the juice on a small scale. We have spent considerable time with several mechanics, trying to contrive some simple apparatus, which could be sold for \$12 to \$15, and yet suffice to extract the juice from a few thousand canes. In this effort we have thus far been unsuccessful. A mill with iron rollers 3½ inches in diameter was tried, but when these were brought together near enough to press out any considerable proportion of the juice, they would not feed or draw in the canes freely, and if they did this, it was next to impossible to turn the crank when a cane-joint passed in, even with a multiplying wheel to increase the power.

A somewhat larger mill, made at the Speedwell Iron Works, Morristown, N. J., which we found on sale at R. L. Allen's, in this city, was tried with unripe canes from our field. This has rollers 8 inches in diameter, with cogs working into each other at one end, and a large cog-wheel, pinion and crank at the other, all set in a strong iron frame. This presses out the juice finely, but it requires more force than man-power to work it. If attached to a horse-power, by a large band-wheel, as they are now being made, this is the best mill we have seen at so low a price as \$75. For our own use, we have calculated that, in the end, it will be cheapest to purchase a regular sugar-cane mill, of large size, which can be used the present year, and if not wanted afterwards, be sold to some one going into the business largely, at the South if not North. We expect before closing this number to receive a description of a rude mill being erected in Ohio—if this arrives it will be given at page 237.

It will not be difficult to get up an extempore wooden hand-press, where only a few dozens or hundreds of canes are to be tried, for the curiosity of the thing. We suggest the following: Take a round, smooth, hard-wood log, 10 or 12 inches in diameter, and saw off two rollers 10 inches long, set these between two planks supported or kept apart at each end by heavy blocks cut 10½ inches long, to allow an eighth of an inch play for the rollers. Hoop the rollers at each end with strong iron bands, put on like wagon tires, by the blacksmith. For axles, take an iron rod 16 inches long and at least 1½ inches in diameter, and drive it firmly through the center of one of the rollers previously bored with an auger, letting the ends extend through the planks to form gudgeons. Put a similar rod through the other roller, but let it extend 5 or 6 feet above the frame, and bend it over at right angles for a lever to turn with. The rollers being put in place, spike the planks firmly upon the 10 inch blocks at each end. To prevent the crank rod from turning in the roller, wedge it tightly, and also put a cross key or pin through it, at the points where it leaves the end of the roller, and drive these into the wood. Make a little duct in the lower plank to conduct the juice to one side, and into a vessel underneath. To prevent the axles wearing into the wood, nail two or three pieces of flat iron around them upon the upper and lower sides of the plank frame. Any one, with a little assistance from a blacksmith, can construct a simple apparatus like this in a single day, and the whole cost need not exceed five dollars.

We recently conversed with Mr. A. Stoutenborough, of Dallas Co., Ala., who has been making syrup successfully this year, and we give his experience, writing from memory. He planted several acres of Chinese Sugar Cane, in drills, putting one seed in a place. Each seed produced one large central stalk with a number of suckers. The suckers not being so forward as the main stalks, he commenced cutting out and grinding the latter toward the close of August, or as soon as the seed began to ripen. The suckers are to be pressed as they mature. He constructed two upright wooden rollers, of large size, putting an iron band around the ends of them, and fitting with wooden cogs to make them turn together. They were set into a strong frame, one of them projecting up for the attachment of a lever for driving by horse. With this mill he pressed out about 70 gallons of juice in the fore part of the day, which was put into a 120 gallon cauldron, or iron kettle, and boiled down just as he would sap for maple sugar. The scum rising from time to time was skimmed off, and when it had become clear he added to it 14 or 15 tea-spoonfuls of slaked lime, first stirring it in water to the consistence of milk. The boiling was continued, skimming when needed, and with a slower heat towards the close of the process. The result was, 12 to 14 gallons of thick syrup of very superior quality from each 70 gallons of juice.

This experiment, on a rough scale, by one without previous experience in sugar-making, will be suggestive to others in like circumstances. In boiling down the juice, it is important to heat it soon after it is expressed. The heat should be kept just below boiling until most of the scum rises when it may be taken off, the lime added as previously described, and the boiling be continued as long as desired, removing from time to time all scum that accumulates. The syrup will be improved by letting it cool after boiling down, say one-half; then strain it through a woolen cloth; stir in some whites of eggs; heat it again gradually and skim, and then complete the boiling.

WONDERS OF THE BEE-HIVE.

NUMBER IV.

Strongly defended as the bee-hive is, one might very soon be dissuaded from an attempt to look inside of it, by one or two attacks from the inhabitants. A single bee can inflict such an injury as to make one cautious, but alas! for the man who is attacked by a whole swarm.

The anger of bees can, however, be checked in various ways. A little smoke blown in at the entrance to the hive has the effect of making them quite peaceable, and of driving them so far away that it is easy to make an examination of the lower part of the comb. This may be tobacco-smoke, or still better, the smoke of *spunk*, (a tinder frequently called *punk*.) Cotton dipped in a weak solution of salt-peter and then dried, is also recommended; or, if necessary, the bees can all be put to sleep by chloroform, the vapor of which has as decided an influence on insects as on men. We cannot recommend its common use, however. It takes the bees several hours to recover from the effects of it, and some do not survive, either because they are suffocated, or perhaps because they come in contact with the stings of their neighbors, which seem to be convulsively thrust out in the excitement of the moment. The system of management introduced and advocated by Mr. Langstroth, takes advantage of the instinct that prompts the bees to fill themselves with liquid sweets, and makes them peaceful by sprinkling them with sweetened water.

By some such plan we will suppose ourselves to have gained access to the inside of the hive, and to have obtained peaceable possession of a large sheet of comb, to which we proceed now to give our attention, and it is worthy of our study.

It is a specimen of insect architecture, framed according to unvarying instinct, and so admirably contrived that no wit of man can improve upon it. All that we can do is to come to it for instruction.

We find the empty comb very light, though one filled with honey is heavy. It is delicate, and easily broken with the pressure of the fingers. We must handle it with caution. The piece we have is made up of six-sided cups, of about the same size and depth, placed side by side, and as many similar ones, opening the other way on the other side of the comb. Near the upper edge are a few cells larger and deeper than the rest, and occasionally we find one with only five sides. This sheet of comb was hung edgewise from the top of the hive, and parallel to it, on either side, were others like it; and as it had no connection with the bottom of the hive, and only partially with the sides, it was evidently built from the top downwards. And it was built by the bees: no one else had a hand in it. The manufacture was all carried on within the hive. There are no chips, nor gravel, nor sand: no straws, nor threads, nor leaves; no saw-dust, nor scrapings of wood, nor lint. Such things may do very well for the nests of birds and hornets and mice; but the bee disdains all such aid, and carries nothing to its hive that is weather-worn or soiled. It uses nothing at second hand. And for neatness and delicacy of workmanship, these cells are a model for mechanics and artisans.

"How skillfully she builds her cell!
How neat she spreads her wax!"

And now we ask what the comb is for, and why the bees are led to make it, just as they do.

The bees, living in large companies, and being obliged to collect their supply of food for the year while the flowers are in bloom, need some means of storing up their winter treasures, and also of cherishing and feeding their young brood. The food of the bees is honey; and they give their

brood the pollen or fine dust of flowers; and as they are sensitive to extreme cold, it is necessary to have these things packed away where they can be easily obtained in winter.

To meet these wants the bees provide small cells, which are sufficient to answer as cradles for the young bee till it comes to maturity, and which will also hold a few drops of honey, or a small cake of bee-bread. We sometimes keep liquid honey in tumblers or bottles; but these would not answer for the bees, as they would certainly be drowned in their own food, if it was put up in vessels of such a size. Probably too, the honey keeps better in small cells than in larger cups. We put all vessels containing liquids with the open side up, at least until they are properly corked and secured, but the bees have their cells open sideways. This they can do with small cells, without risk of losing their contents; the experiment would not be successful with quart cups. But why do it at all? For two reasons. First—if the combs were placed horizontally, like a set of pantry shelves, they would not be strong enough to bear their own weight when filled with honey and covered with bees; and then, such an arrangement would only allow the cells to be on one side of the comb, and would require a great deal more wax for storing an equal amount of honey.

The bees begin to build at the top, and work downwards; why is this? It would be a singular thing for a carpenter to begin a house at the ridge-pole and build down to the cellar. Of course the bees must have something provided to fasten their combs to: a branch of a tree, a board, or something of the kind. They do not "build a castle in the air," exactly. But beginning at the top they can get a firm hold, and arrange their sheets of comb on plumb-lines, and then all the strain of their own weight and of the honey is directly downwards; on the other hand, if they built upwards, as they can be compelled to do, the comb would be in constant danger of tipping to one side or the other, and breaking with the weight of the bees. Now for the shape of the cells.

They are six-sided figures, with very thin walls. We might expect round cells, but this would demand much more labor, and a much larger consumption of honey for the manufacture of the wax. The most economical shape is one allowing the cells to be all exactly alike, with no loss of space between.

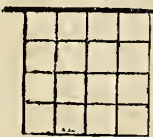


Fig. 1:

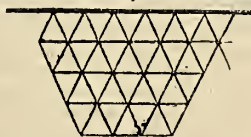


Fig. 2.

These figures show that the square and the equilateral triangle would use up all the space, without loss. But neither the square nor the triangular form would be the best for the round body of the bee. The circular shape would seem preferable, but for the enormous consumption of wax, which is indicated by figure 3.

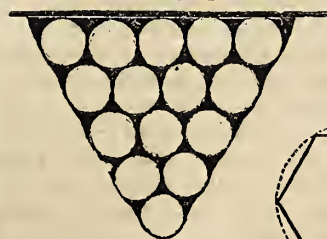


Fig. 3.

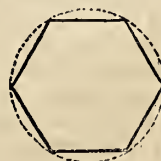


Fig. 4.

But if we take a shape very much like a circle, the hexagon, we shall find it answering every end. A hexagon is a figure of six equal sides whose corners are all found in the circumference of a

circle described about the same center as in fig. 4.

Any number of these six-sided figures can be put together, without chinks between; and each one of the six sides of one cell will form one of the walls of another cell; and so we get the genuine honey-comb.



Fig. 5.

A comb constructed in this way is less easily broken than one made with square or three-sided cells, and retains the honey better than if the cells were much larger. Most of the cells in a hive are made of the size of our last figure; but sometimes when honey is very abundant, they are made somewhat larger, and in such cells the drone bees are reared.

And what shall be the form of the bottom of these honey-cups? The circular form would be unobjectionable so far as any single one is concerned, but as the cells are to be arranged so that the same wax-plate is to serve for the bottom of two cells, a circular form would require a wasteful use of wax. This is shown by the heavy black line of figure 6. If the arrangement was such as to make each of the cells opposite two

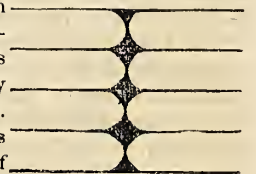


Fig. 6.

others, there would be some saving as shown in fig. 7; and if straight lines were substituted for curved ones, there would be still greater improvement; and this representation is more

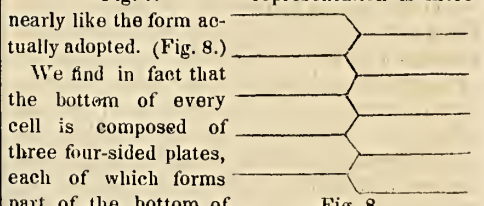


Fig. 7.

nearly like the form actually adopted. (Fig. 8.) We find in fact that the bottom of every cell is composed of three four-sided plates, each of which forms

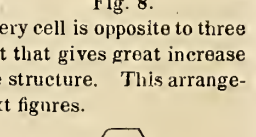


Fig. 8.

part of the bottom of another cell; so that every cell is opposite to three others; an arrangement that gives great increase of firmness to the whole structure. This arrangement is seen in the next figures.

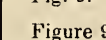


Fig. 9:



Fig. 10.

Figure 9 shows a single cell opposite to three others; and in figure 10 the black lines indicate the boundaries of the cells on one side, the dotted ones those of the cells on the other side. The cells in this figure are about the size of drone cells, and when the bees have occasion to join these large cells to smaller ones, of course some of the connecting links become irregular in shape.

When the cells are full of honey, they are covered over with white caps of wax, which protect the contents from the air, but are easily removed when circumstances demand it. Cells occupied by the young brood are also covered with a darker colored substance which enables one to distinguish them at a glance.

To this long account we will only add the

statement, that the ranges of comb are placed so near to each other as to give only the room necessary for the bees to pass each other without jostling; and in all these things the bees are guided by an unerring instinct, and have been thus guided for ages; bearing constant testimony to the over-ruling providence of Him who made all things, the swarming insect as well as the firmament and every living thing. All his works praise Him.

INSECTS HURTFUL TO VEGETATION.

One of the greatest drawbacks to success and pleasure in farming and gardening, is the ravages of insects. Their name is legion. You meet them in Spring on first turning up the soil with plow and spade, they swarm about you in Summer, they dog your steps in Autumn, and if you try to cultivate plants in Winter, they infest your green house, conservatory and parlor. They prey upon every tree, shrub, vine, plant, flower and fruit that man cultivates; nay, it is said that nearly every plant has six or eight special enemies. Nor is it very consoling to think that every swarm of insects around us is only one phase of their existence. When they die, they will not stay dead, like good, honest enemies, but reappear, metamorphosed into some new shape, requiring some new method of attack. Moths, millers and flies, are but the representatives and propagators of maggots, worms, caterpillars, &c., innumerable. Is not this one of the plagues of old Egypt reproduced?

But shame on the farmer or gardener who sits down in despair, and lets this allied army take undisturbed possession of his grounds! Let him rather set himself to studying the habits of his enemies, to finding out their weak points, and when and how they can be best assaulted and vanquished. Much useful information has already been collected on this subject by American and foreign writers. The late Dr. Harris, of Boston, prepared a valuable book on the insects injurious to vegetation, and Dr. Fitch, of Albany, is now industriously at work among the *varmints*, learning all their ways, taking their portraits and writing their memoirs; all of which will soon appear in his second Report to the N. Y. State Agricultural Society. These publications also give some of the best remedies for preventing the increase of insects and stopping their ravages. We could only wish that some competent hand would condense these reports into a small and cheap book for universal circulation.

Something has already been learned concerning these deprecators, and the mode of destroying them, which is of practical value. Take the curculio, for an instance. We have at least learned that certain methods of combatting him once relied upon are ammunition thrown away. We now know that he can't be fenced out by high palings, nor kept from ascending trees by rings of tin, or cotton batting, or tarred ropes, and that he will often circumvent pigs and chickens. Frequently jarring the tree and gathering up the fallen fruit and insects, and dusting the top of the tree with lime and sulphur seem now to promise more benefit than any other remedy. The German method is also useful, of mixing gypsum and spirits of turpentine, and when dried, dusting the foliage with it when the dew is on. So of the rose bug, rose slug, borer, caterpillar, the scale, jumping louse, and aphides of all sorts, much has been learned respecting them. The best remedies for insects that infest the bark and foliage of trees and plants is tobacco water, or a dilution of whale oil soap applied with a garden syringe.

The rough bark of the trees should be scraped off in Spring, and a good washing of soap water applied with a broom or white-wash brush. The foliage may be cleansed by one or two applications of either mixture, just as the insects appear in the Spring. The whale oil soap should be mixed with water at the rate of two pounds of soap to fifteen gallons of water. Weaker than this, would not kill the insects, much stronger than this would injure the trees and plants. The tobacco water should be used with some caution. The tobacco leaves, (which can be bought of any tobacconist at a cheap rate,) should be boiled in water until the liquid is of the color of weak black tea, one pound to four gallons of water. To proceed with safety, it is best to try the decoction first on the foliage of some common plant, and if that is not injured, the mixture may be used largely without fear. Every good gardener should have one of those preparations always on hand, that he may bid defiance to a host of enemies.

Another method of subduing insects is bottling them. Common glass bottles with wide mouths, filled to the neck with sweetened water, and hung on the branches of trees will decoy a multitude of insects in the course of twenty four hours. Beetles, millers, wasps, hornets, bees, bugs, flies, of all sorts, colors, and sizes, take blindly to the bottle, like man, and perish. Light colored bottles are better than dark, and they make a better trap if hung at an angle of about 45 degrees. They will need emptying every few days. A friend of ours once caught in twenty bottles, eight quarts of insects in a single day.

As a part of this general warfare, it is important to throw up the soil of one's garden every Fall, into ridges, that the frosts may better penetrate the ground and destroy the eggs and larvæ of insects which winter there. And if lime is used to alternate, every other year, with salt, it will be all the better.

GRASSHOPPER RAVAGES—A REMEDY PROPOSED.

[We insert the following letter from "An Old Farmer" with pleasure. The writer has raised 'some turkeys' in his day, and speaks from experience. In connection with this letter it may be well to turn back and read the chapter on Turkeys in our last number, page 198. We were not a little amused, when visiting a friend at the West, to see him let out his fowls morning and evening. He had a large number of barn-door fowls, which followed him around the garden like a flock of sheep; and they literally cleared the plants of everything like an insect. They were trained, at first, by receiving their food in small portions at a time as they followed their owner, and this induced the habit. Sometimes he spent an hour or two in using the hoe, when the fowls kept near him, and even run between his feet. By covering a little grain previously, and then digging it out, the hens had been taught to watch his hoe, and when no grain was at hand they stood ready to nab any unlucky worm or grub that chanced to be uncovered. Our own garden has been kept almost wholly free from insects, the present season, by a multitude of toads which have fortunately taken up their abode there. On this topic see the "Good Word for Toads," at page 156, in the July number of this volume.—Ed.]

To the Editor of the American Agriculturist.

I notice that the grasshoppers in large swarms have found their way from the Mormon Territory west of the Rocky Mountains, to the Territories east of them, and have committed great ravages in Minnesota and elsewhere this season, eating up every green thing in their progress, and leaving the land as desolate as the clouds of locusts do in Asia and Africa.

For one efficient aid in destroying this great plague, I would suggest to every farmer the propriety of raising as many young turkeys as they possibly can next season. Perhaps I shall be laughed at for this recommendation, as totally inadequate to the object. But let me tell my broth-

er farmers that they have no idea of the almost incredible number of grasshoppers which a flock of 300 half-grown turkeys will devour. Early chickens will begin to pick up the vermin when very young; and it is safe to say that a flock of this number of turkeys will then destroy several hundred thousand weekly; yes, I might say several millions and be nearer the mark. Almost any farmer in our rich Western country can easily raise from 100 to 500 turkeys; and I will engage, if all will do their duty in this respect, they will promote their own interests, destroy the plague before it can advance upon them, and at the same time provide themselves with plenty of fine fat turkey meat for the whole of the succeeding Winter.

Several years ago there was a very destructive worm among the turnips in England, which at length increased so rapidly as to endanger this crop, that is almost as important to British farmers as the Indian corn crop is to American husbandmen. One of the most effectual remedies found for the extirpation of this worm, was the raising of young ducks to feed upon them. The Earl of Leicester had at one time a flock of at least 300 ducks, which he used to let into his turnip fields for a couple of hours or so every morning and evening. They sought for the worms on the turnip leaves with the utmost avidity, and in an incredible short time cleared the fields—the turnips that year yielding bountifully.

I have been a reader of the *American Agriculturist* from its commencement to the present time—fifteen years and upwards—and am happy to add that it has ever met my views in advocating the protection of birds, and even crows, snakes and toads, and the rearing of poultry, subsidiary to the destruction of crop-ravaging insects. If the good advice it has so often given under these heads was more often followed by our farmers, we should hear less complaint from them of the destruction of their crops by the numerous insect tribes.

AN OLD WESTERN FARMER.

NOTE.—Since putting the above in type, we have a report that the grasshoppers are very numerous in Cecil County, Md., so much so that in some places they have entirely eaten up whole fields of seed clover, and the tops of beets and other vegetables in the gardens. These insects are described to be similar to those at the West, and the plague may be nearer to us than is supposed.—[Ed.]

A FREE CONCERT.*

IMPORTANT ANNOUNCEMENT.

FLUSHING, L. I., July 20, 1857.

To the Editor of the American Agriculturist:

Will you please excuse the intrusion of an early rising Lark for dropping into your open window a card from my friends Bobolink, Robin, Sparrow and Jay, which they published in the Vermont Christian Messenger. We have had a meeting of Bird Musicians this morning in your garden, hoping to meet you there to report our proceedings as usual, but hearing you were absent from home, I was deputed a committee to ask you to publish through all the land this announcement, which was unanimously adopted at our gathering.

MISS LARK.

PUBLIC NOTICE!
There will be a Free Concert in every village in the country during the Summer months, at sunrise, to continue one hour, when all persons, old and young, who might be presumed capable of relishing the entertainment, are cordially invited

* This letter, though in type, was unavoidably crowded over in our last two issues. It would never be out of season, however.—[Ed.]

to attend, and listen to the rare music which we offer for their amusement.

All we ask for our services is, to be let alone in the undisturbed possession of our homes and callings. The little boy who threw a stone at Mr. Bobolink, and broke his wing, may remain at home, he is not wanted at our concert. The great boy who robbed Mrs. Sparrow the other day, carrying away her eggs and nest, had better stay and help his mother sweep the kitchen—his presence would not add to our enjoyment. The man who threw a club at Mrs. Robin, who was picking up some worms in the garden for her children, may attend to his garden, and look to the bugs and insects himself; this would suit us better than his attendance. The little girl who got up cross the other morning, and pouted at her mother because her mother wanted her to wash her face, should keep away; it is not intended for her amusement. The great girl who spends most of her time in making or altering dresses to wear to balls, or other parties of pleasure, while her poor sick mother is wearing her life out to support the family, and keep them together, will take the hint that her absence will not occasion us any regret, or lessen our enjoyment; this performance would not be adapted to her nature, and she would gain no satisfaction in listening to our simple, artless strains of melody. The man who spends two dollars every week for tobacco or rum, and other unnecessary articles, and neglects to pay his honest debts, the fumes of his fetid breath would exceedingly annoy us, and we would most respectfully request him to keep at a distance. The man who takes the newspaper, and don't pay for it, may get his music where he can find it; we won't sing to him for love or money. The old bachelor who closed his purse the other day, against a poor woman who had five small children and a drunken husband to support, may lie in bed, or go fishing, or do something else, we do not court his company; if he would attend less to his own comforts, and a little more alleviate the wants of suffering humanity, we would welcome him, most gladly, to our entertainment.

Those who so live that the clamors of a guilty conscience may not mar the harmonies of song, will find vacant seats waiting their attendance.

Please recollect that the first ray of morning light is heralded by our sweetest notes.

MR. BOBOLINK
 MRS. ROBIN,
 MRS. SPARROW,
 MR. JAY, } For the Choir.

PLOWING POINTED LANDS

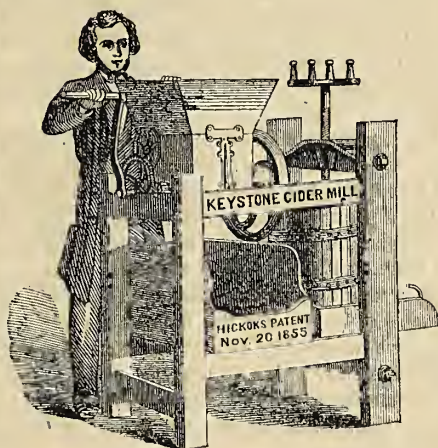
To the Editor of the American Agriculturist:

Though it is customary to strike out lands for plowing, in the form of a parallelogram, that is, both ends of the same width, yet it often happens that, owing to the irregularity of a field, one or more lands run out to a point. In such cases it is the universal practice to plow entirely around them, that is, drive the team to the pointed end and turn round upon the plowed land. Where there are many turnings of this kind there is necessarily much tramping of the loosened ground. In my practice, I avoid this as follows: When going out towards the point, at a place where the plowed land is still say six feet in width, I turn the team round on the unbroken ground and go back around the wide end. By turning about thus as often as I reach a place in the plowed land of only six feet wide, I reduce the whole to a uniform width, and have done all the turning and tramping upon unplowed land. The last six feet is, of course, finished by furrows the whole length of it. It will readily be seen that

the turnings are no more than if they were made at the same places as fast as the land is run out to a point. Besides avoiding packing the loosened soil, it is much easier for the team to turn upon solid ground, especially if the soil be mellow and deeply plowed.

A MAINE YANKEE.

REMARKS.—The above is a valuable suggestion. Practical plowman will, of course, understand that it is necessary to narrow each furrow to a point before turning, and also to strike in on the opposite side with a narrow cut, otherwise the two sides of the six feet wide plot would be left very rough, or notched, and the first through furrows to finish off the last plot would be very uneven, and, at least, show bad. Every one does, or should delight in seeing his work left smooth and even.—ED.



A SMALL CIDER MILL AND PRESS.

We can not better answer the numerous inquiries for a small, cheap Cider Mill and Press, than by presenting the accompanying illustration of the Keystone mill, which we do without solicitation or even the knowledge of the patentee, simply because we believe it 'a good thing.' We have seen it in operation several times during two years past, and have always been pleased with it. It is cheap, occupies but little space, say 2½ by 3½ feet; it is easily stored, or carried from farm to farm, as it weighs scarcely 400 lbs., and does the work, so far as we have observed, as effectually as the old mills occupying much more space, and costing two or three times as much. We notice in the mills on sale this year, several improvements upon the former construction.

The mode of working can be seen by a glance at the cut. The apples are thrown into a hopper where they are ground to a fine pulp or pumice. This may be done by hand, or by attaching a band from a horse-power to the band wheel. The pulp is then shoveled into the press, which is made of thick narrow staves set nearly together, and held by strong iron hoops. The pressure is applied by an iron screw, which can be turned up and down by hand or with a long lever placed between the upright handles. The usual retail price is \$40. It may be used for pressing apples, grapes, currants, berries, cheese, &c. We have not ourselves seen its full capacity tried. A correspondent who writes strongly in its praise, says that with the aid of his two boys, (ages not given), he easily makes five barrels of cider in a day. We have thus given our own opinion of this mill; if any of our readers find it to fail in practice we shall be glad to hear from them also.

Flowers are the alphabet of angels, wherewith they write on hills and plains mysterious truth.

What is more beautiful and poetical than the child's idea of ice, "Water gone to sleep."

COLUMBIAN GUANO.

INFORMATION WANTED.

We are quite anxious to gather immediate information in reference to the use of this article. Will any of our readers, having used it, please let us know of their experience, where they purchased it, &c.?

BONES—AND HOW TO DISSOLVE THEM.

We have frequently referred to the value of unburned bones as a fertilizer. That bone dust is superior to any and every other manure purchased from outside of the farm, we are so strongly convinced by experience and observation, as well as by theory, that we buy no other fertilizer, and probably shall not, so long as this article can be obtained at anything like a reasonable price. The chief reason for our not writing more on this topic is, that the supply is so limited that it hardly seems worth while to wake up an interest in the matter, or create a demand for what cannot be supplied.

The present year we had about one-fourth of an acre planted with a great variety of garden stuff, using bone sawings, (obtained from a bone comb and knife-handle manufactory,) in the hill or drill with every variety of seed. This was put on thus at the rate of about five barrels to the acre. We held in reserve the sink-slop vault, described on page 157, (July No.), expecting to draw largely from it. But the damp season has left no demand for watering, and as for additional fertilizing material, why everything has grown so rank and fruitful that a pruning knife or hoe has been constantly needed to thin out or lop off the superabundance. We should hardly be believed, did we write down what beets, turnips, tomatoes, corn, asparagus, kohi rabi, cauliflower, strawberry plants, rhubarb, &c., &c., we have raised. We attribute these chiefly to the bone dust, so finely pulverized that it was all ready to at once nourish everything it came in contact with. An assistant at our elbow says, "that two to four feet trenching must come in for a share of the credit." Well, allow for that, and the bone dust still did the thing. Please turn to the articles on manure, in the first numbers of this volume, and look over the reasons there given why bones are so valuable to plants.

We said bones are scarce, and so they are, comparatively, yet a vast amount could be gathered in the country were there a general, thorough "bone-hunt" instituted upon every farm. Give the boys ten cents a bushel for all they will collect for you, and you will soon find a cart load. There are plenty of vagabond boys in most neighborhoods who might be engaged in such a job, with profit to the community as well as to themselves and friends.

But the great difficulty is in using bones. They should not be burned, for that destroys at least seven-eighths of their real value. They should not be dissolved in ashes, for that is almost as bad as burning. They are best when ground, to powder—not merely crushed into small pieces. In this form (powder) they can be put directly into the hill, or drill, with seed, or around and in contact with growing plants, without the least danger of injuring them. They furnish most excellent nutriment and stimulant to all sorts of growing crops and vegetables, no matter what the kind or variety.

The greatest difficulty lies in getting them ground, since bone-mills are scarce, and few of those in operation grind the bones finely enough for immediate benefit. There are few farmers in the older States who could not afford to haul bones 20 or 30 miles to have them ground, but

even this is impracticable in most cases. We do not know of twenty bone-mills in the country. Some get bones pulverized in a mill used for grinding tanner's bark. One of these is better than no mill, but does not grind finely enough.

DISSOLVING BONES IN ACID.

A very good fertilizer may be prepared by dissolving bones in sulphuric acid, commonly called "oil of vitriol." It is a cheap liquid, nearly twice as heavy as water, and costing, by wholesale, at the manufacturers, about two cents per pound for a good article. At a distance the price is higher, proportioned to the expense of transportation. It is put up in large glass bottles, called *carboys*, each holding from 120 to 160 pounds. The carboys are covered with boxes or basket work to protect them, and cost from \$1 to \$1.50. Sulphuric acid is a very caustic burning fluid, which will destroy the flesh or clothing wherever a drop touches. On this account great care is necessary in handling it. We knew of one severe accident from setting down the carboy too suddenly after pouring out—a portion of the liquid flew up into the operator's face. There need be no difficulty with proper care. We have used very many tuns of it for sundry purposes, and have never suffered in the least. If by chance any should fly upon the skin or clothing, an immediate application of water should be made. Ammonia ("hartshorn") applied afterwards, will generally restore colors changed by it. Old garments should be worn in operating with it.

To dissolve bones in sulphuric acid, choose any tight barrel or oak,—an old meat barrel will do, wooden hoops are best—and put into it, by measure, two to three times as much water as you have acid to be used. Into the water in the barrel pour the acid slowly. If all be put in too quickly a great heat will be the result. The bones, broken or unbroken, can now be packed into this liquid until they rise some distance above it. Cover the barrel closely with a board, or wooden cover. The contents should be stirred with a stick, and the bones pushed down from time to time. As they gradually disappear, more bones may be added, so as to keep the liquid filled with them. In the course of four to eight weeks the acid will cease to act. If the dissolving is required to be done more speedily, the bones should be broken into small pieces with a hammer, before adding them to the acid. Some persons have tried to dissolve bones, and become discouraged because the operation was not completed in a day. For large whole bones two months is often required for the complete solution, and it is better not to try to dissolve the whole. Keep the liquid filled with them, and the portions undissolved can be used in the next batch.

To use the liquid, pour it off from the remaining bones and mix it with a large quantity of dried muck, or dry swamp mud, pulverized. Almost any kind of earth, except sand, will answer to dry the liquid with, and sand might be used. The more dark colored vegetable matter it contains the better. A cart load of earth to a bushel of bones, dissolved, will be better than a smaller quantity, though one-fourth of this amount may be used. Mix the mass thoroughly together and work it fine with a shovel, hoe and rake. This may be done on a floor, or on a hard ground surface. When finished, pack away into barrels or boxes to be used weeks or months afterwards.

We know of no better manure than a material prepared in this way. It is better and cheaper than any fertilizer you can buy, not even excepting Peruvian guano. It can be applied in the hill or drill, with all kinds of seed, and will speak for itself. If the dissolving process be continued un-

til the acid is all used up, and plenty of earth be thoroughly mixed in, there is not the slightest danger of its injuring seed or tender roots, though placed in direct contact with them.

WIRE FENCING.

INFORMATION CALLED FOR.

From considerable observation, we long since lost faith in the adaptability of *wire* or general fencing, if put up in the modes formerly recommended. But during the past Summer, we saw a number of wire fences in different parts of Illinois and Iowa, constructed on improved plans, which gave strong promise of being permanently useful, and we are not sure but this kind of fence will yet prove to be the cheapest and most effectual, particularly in *prairie* regions. The kind which appeared the most feasible is that in which the wires are kept in due tension, Summer and Winter, by a weight applied to a lever, the lever being attached to a kind of drum around which the wire is wound.

We commenced preparing an article on this topic, with illustrations of the mode of tightening the wires, &c., but have concluded to defer the matter a month or two, in order to solicit special information from those who have tried this plan and others, as well as those who have witnessed trials in their own neighborhoods. In order to call out replies, we propose the following questions, which we respectfully request our readers to answer at as early a day as possible. We do not solicit letters prepared for publication, but simply replies from which we can collate an article of general interest.

1. What has been your experience or observation in *wire* fencing?
2. How large wire (what number) do you consider necessary to make a substantial fence, against cattle and other animals?
3. Would you use the same size of wire for the top and bottom strands?
4. How many wires would you recommend?
5. How near to each other would you place them in the upper and lower part of the fence?
6. How would you attach them to the posts?
7. What kind, and what size would you consider the best posts?
8. How near to each other would you place the posts?
9. Would you recommend a board or string-piece to be nailed along the tops of the posts?
10. How long would you extend the wires between the permanent fastening points?
11. What do you consider the best mode of keeping the wires uniformly stretched, in both cold and hot weather?
12. Have you tried the plan of setting two posts with a roller between them for tightening the wires by means of short sticks or levers? and if so, what is the result?
13. Have you tried, or seen tried, the late mode of using short cast-iron drums, pointed at one end for insertion in the posts, and pierced at the head with two square cross holes or mortices, for the insertion of levers, to which weights are attached?
14. Will you please describe minutely (by drawing or otherwise) the form, size of each end, length, size of holes, &c., you consider best for these iron drums, together with their cost, &c., delivered in your own neighborhood?
15. How large, and how long a lever, and what weight is required for a given length of wire, say forty or fifty rods?
16. How would you attach the weight, say a stone or block, &c., and how heavy should it be?
17. Please communicate any other information or suggestions on these topics that may occur to you.

These questions are, some of them, quite simple ones, we are aware, and we could readily answer each one according to our opinion, but on a topic of such importance to so large a portion of the country, as is embraced in the vast prairie regions of the West, we prefer to get the opinion of a considerable number of practical men, even as to the minute details. In a multitude of coun-

selors there is wisdom. As soon as we hear from a considerable number of correspondents, we will condense the pith of the whole for the benefit of our readers generally.

LARD AND RESIN FOR TOOLS.

"A penny saved is two-pence earned."

Not less than **\$50,000** worth of valuable tools, belonging to the readers of the *American Agriculturist*, (less than \$2 each,) will be spoiled, or materially injured, simply by rusting between now and next Spring. The damage alone will be \$50,000. Look at the plows, harrows, cultivators, hoes, shovels, forks, chains, axes, saws, not to enumerate wagon irons, and a multitude of little tools that *ought* to be provided on or about any farm, and then reckon up how many of them will be left where the combined effect of air and moisture will attack their surfaces and eat away enough to render them rough at least, if not to materially depreciate their value. Many instruments are destroyed faster by lying idle than they would be by constant wear. We will not now write a homily upon the value and importance of a *Tool-house*, and of having every implement stored in it, but give a recipe for an exceedingly simple, cheap and effective preparation, one available to all, which will at least save all metals from loss by rust.

Take about three pounds of lard and one pound of resin. Melt them together in a basin or kettle and rub over all iron or steel surfaces in danger of being rusted. It can be put on with a brush or piece of cloth, and wherever it is applied it most effectually keeps air and moisture away, and of course prevents rust. When knives and forks, or other household articles, liable to become rusted or spotted, are to be laid away, rub them over with this mixture, and they will come out bright and clean even years afterwards. The coating may be so thin as not to be perceived, and it will still be effectual. Let every one keep a dish of this preparation on hand. As it does not spoil of itself it may be kept ready mixed for months or years. *Mem.* Fresh lard, containing no salt, should be used. Resin is a cheap article, and may be obtained almost anywhere for four to six cents per pound.

VEGETATION OF SEEDS.

It is often a wonder to novices in gardening, that their flower-seeds do not vegetate. They take infinite pains, in digging, manuring, sowing, watering, and mulching, but after all, many of their seeds will not come up. They blame the seedsman and the season. In many cases, neither is to blame. The cause of the difficulty lies in the too early sowing of their seeds. There is a great difference in the habits of plants. The seeds of even some native plants do not start into growth at the first opening of Spring. And certainly, it would be strange if the seeds of tropical plants should do so. They need the warmth of the tropics to make them germinate. Now, many of our finest annual flowers are natives of South America, California, Africa and Australia, and ought we to be surprised because their seeds will not germinate in the comparatively cold weather of our Springs? Give them their native warm weather, whether in the hot-house, or frame, or parlor-window, or wait until the month of May or June brings it, then they will grow apace.

It is easier to declaim against a *thousand* sins in others, than to mortify one in ourselves.

We do not despise all those who have no vices, but those who have not one redeeming virtue.

ORNAMENTAL STRUCTURES FOR THE GARDEN.

We have heretofore spoken of the appropriateness of introducing simple ornamental structures into pleasure grounds, such as arbors, rustic seats, baskets, frames for vines, &c., and we would fain believe that some of our suggestions have already been heeded. Whether this be so or not, we wish now to appeal to our readers again, and have called in the sketcher and engraver to help us in this appeal, by giving a few newly engraved pictorial illustrations copied mostly from structures in our own grounds or those of our stated contributors.

No. 1, is a rustic basket made of pine and painted the color of willow. It may be of any size from four to eight feet in diameter, and two feet high.

The circular frames at top and bottom are cut out of pine plank one inch and a half thick. The lattice work is $\frac{1}{4}$ inch pine, nailed across from the upper and lower circular frames, to represent the wicker-work of a basket. The whole is then covered with three good coats of dark yellow paint. To make the basket hold soil, it must be covered on the inside with cheap oil-cloth fastened on by carpet-tacks. As it has no bottom, it is comparatively light, and can be easily carried into any chamber loft for the Winter; and it is important to store it away in Winter, to preserve it from decay. When wanted in the Spring, it can easily be rolled out on to the lawn and placed wherever wanted. Set it firmly and level upon the ground, fill with good soil rounding it over in the center, and plant with verbenas, petunias, geraniums, or sow it with annuals. It will make a beautiful object all Summer. Such a basket well-cared for, will last six or eight years.



Fig. 2.

No. 2, represents a support for tender vines, and is so constructed as to be lowered to the ground at the approach of Winter. Among the vines requiring such treatment, we would mention the Trumpet Creeper, Chinese Wistaria, and the Prairie Roses. These vines sometimes go through the Winter unprotected without harm, but they are often injured and sometimes killed to the ground; it is therefore safest to lay them on the ground in Winter, where they will be protected by the snow. A post of cedar, three and a half feet long and four inches square, is set in the ground, and rising eight or ten inches above the surface. An opening or slit is cut in the top of this post to receive an upright shaft eight or ten feet high, three inches thick at the base, and tapering to the top. Several rods are inserted in

this shaft to which the vines are fastened. This shaft is kept in its place by two stout pins at the bottom (a and b). On the approach of Winter, draw out the upper pin and lay the frame and vines together on the ground. If needful, a little straw may be thrown over the vines.

No. 3, is a rustic flower stand or tripod for holding plants in pots. If the stand is lined with zinc, it may be filled with soil and planted with flowers, like fig. 1. In making this stand—and the same may be said of all rustic work—it is important to use only the most durable kinds of wood. Red cedar is the best; white oak is good if cut late in Summer, and wild grape vine trunks answer a good purpose. Small articles of rustic work should be placed under cover during the Winter.



Fig. 3.

No. 4, is a rustic chair, which any clever hand can make in a rainy day. As will be gathered from the picture, the bottom of the chair is made by cutting a round block from the end of a log. The lower portion can be dug out with an ax and adz, leaving the five legs above shown, or any other number. Any other shape can be given which



Fig. 4.

fancy may indicate, or time permit. The back, composed of vines, limbs, roots, or small poles, fastened by nails, can be fashioned into any fanciful form. A few of the pieces may be inserted in augur holes bored in the outer edge of the seat, which will give greater solidity.

No. 5, is a seat for several persons, designed to stand under a tree commanding a distant prospect. It may be made of grape vine branches, and poles of arbor vitæ.

No. 6, is a similar seat made to partially encircle a tree. The short roots of which the bottom of the seat is made should be left half an inch apart, so as to allow the rain to pass off readily. The whole work should be open, to admit rain and sunlight to the ground around the roots, or the tree may be injured. When surrounding objects, on all sides, call for it, the seat may well be extended entirely around the tree, as shown in the cut here given. It will be remembered that these figures, though actual representations of struc-

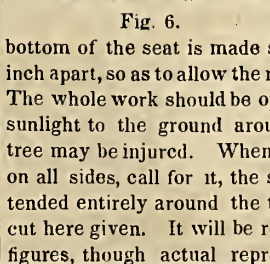


Fig. 5.

tures we have made or examined, are only designed to be suggestive. It is not desirable that they should be exactly imitated; one of the greatest pleasures to be derived in their construction, is the exercise of one's own ingenuity in introducing novelty and variety.



Fig. 7.

No. 7, is an arbor built around a large elm tree in the grounds of one of our contributors. The posts are of cedar, the frame and lattice work of pine and painted a soft drab color. It is now embowered in shubbery, and covered with the American Ivy, which also clambers up the old tree above it. So much does that arbor seem to belong where it is, that a little child of the proprietor once asked his father in all simplicity, how he got that tree up through the top of the arbor!

We close our illustrations for this number, by giving a sketch (No. 8,) of a rustic Summer house seen in the grounds of the late Mr. Down-

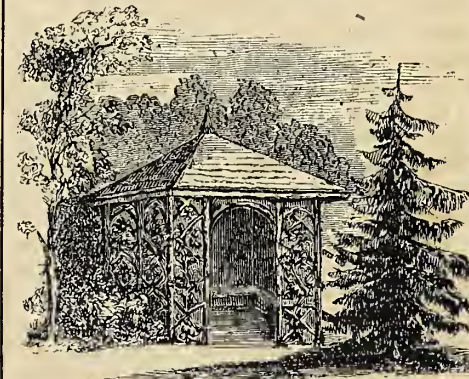


Fig. 8.

ing, at Newburgh. Most of the structures we have now given can be made within doors, on rainy days, or during the leisure hours of Winter. If made well and of the right materials, they will last any reasonable time.

MOSS ON TREES.

A friend writes us that some of his choice trees, both fruit and ornamental, are suffering from the growth of moss on their bark. He wants to know the cause of it, and especially what to do with it.

If we could sit down for an hour or two on our friend's premises, we think we could answer his inquiries easily. We should first examine the soil in which his trees stand, and see whether it is not wet, or hard, or impoverished. If wet, that would be enough to settle the question. The air above wet soils is full of the seeds of lichens,

and the moisture of the air promotes their growth. In such soils, most trees grow very slowly, and so allow the moss time to get a foothold on the bark, before it is cracked and thrown off by the natural expansion of the tree. Now, abstract the superabundant moisture from that soil by draining; manure it, too, if it needs it, and the tree will start at once into vigorous growth, throwing off the outside bark and the lichens with it. The draining, moreover, will so dry the air that lichens can with difficulty live in it. It is all well enough to scrape and wash mossy-barked trees, especially, if the moss harbors insects, but after this has been once done, nothing more will be required than to keep the soil at the roots in good condition.

BULBOS FLOWERS FOR AUTUMN PLANTING.

How many of our readers enjoy the sight of a bed of beautiful bulbous flowers in their garden or yard? Some of them we know do, while perhaps many others have never cultivated a single flowering bulb in their lives. For the latter class, we now write.

Bulbous flowers, such as the crocus, lily, tulip, hyacinth, &c., are those which grow from a bulb or root, of a roundish form, like an onion. They can be raised from the seed, but thus grown, they seldom follow the parent plant in form or beauty of flower, so that it is always preferable to get the bulbs or roots themselves, either of a neighbor, or of a seedsman. Some may be planted in Spring, but most of them should be set out in Autumn, to bloom early in Spring. The snow-drop and crocus are the earliest flowers of Spring, and others of the bulbous flowers follow soon after.

These bloom for many years without transplanting, but it is generally preferable to take up and transplant them once in three to five years. Some set out the Spring flowering bulbs in the month of November, but we prefer early October planting, in this and more northern latitudes. Farther south, they may be set later. They are to be planted in the open ground, as described below, and being perfectly hardy, they require no Winter protection, though a covering of leaves, straw, or coarse manure, to be taken off in early Spring, will hasten the period of blooming.

The following list comprises those which are most hardy, and most easily cultivated, and at the same time most desirable, viz.: The White, Tiger, and Japan Lilies; the Fritillarias, including especially the Crown Imperial (*F. imperialis*), and the Persian Lily (*F. Persica*); Tulips; Hyacinths; Jonquils; Crocus, and Snow-drops. The following are very beautiful, but less hardy than the above: Anemone, Oxalis, Polyanthus *narcissus*, Tuberoses, &c. The list might be much extended, but the first-named are sufficient for general cultivation, especially for beginners. The price of these varies from \$1 per hundred for the crocus, snow-drop, &c., to 25 to 50 cents each for tulips, hyacinths, &c. Rare kinds sell much higher. We append a brief description of the kinds recommended, with directions for culture.

Lilies embrace a large family, some of which are found in almost every flower-garden or border. They grow best on a light, deep soil, with plenty of muck or leaf mold—that is, black earth from the woods. The bulb or root, which is composed of scales laid over each other, is injured by being kept long out of ground. Plant four or five inches deep, where they can remain for a series of years. A good effect is produced by massing different colors. They grow from two to five feet

in height, and are in bloom in succession from June till September or October. The Japan, Garden White, Tiger, and Turk's Cap, are desirable kinds.

Crown Imperial (*Fritillaria imperialis*) is a fine showy plant, and with the Persian Fritillaria is desirable in a collection of bulbs. Any rich garden soil answers well, and the bulbs should not be kept very long out of ground. They are large and fleshy, nearly round in form, except the Persian, which is elongated. They only require transplanting once in four or five years. Plant four to six inches deep, and one foot apart. They reach a height of two to four feet, and exhibit a variety of bloom in April, hanging in a crown form from beneath a tuft of glossy foliage. In color, the flowers vary from bright red, to scarlet, pink and striped.

Gladiolus communis has a sword or flag-like foliage, producing its bloom on one side of a raceme or spike of a foot or more in length, commencing two feet from the ground. The flowers are white, red and purple, opening in June and July. It has a firm, medium-sized bulb, which flourishes on any good soil. Plant two to three inches deep, one foot apart. Each third year is often enough to change them. Many of this family are planted in Spring for Autumn bloom.

Tulips display an almost endless variety of color, both single and double. They are very appropriately termed *gaudy*, with their unfolded petals glistening in every hue, from bright gold to pale red, white, and purple, with delicate stripes and pencillings of various colors. Over two thousand varieties have been cultivated by name, and new seedlings are constantly being added. So great was the rage for this flower in Belgium and Holland, that it is said that \$6,000 was paid for a single root during the seventeenth century. The bulb is pyramidal in shape, firm, of medium size, although differing greatly in different varieties. Plant on a light soil, well trenched, and enriched with decomposed cow manure and muck, to which a portion of sand should be added. Set the bulbs four inches deep, and six inches apart. They are often planted in groups of three to five, of different colors. They may remain unchanged three or four years. The flower is borne on a naked stem, from one to two feet in height.

Hyacinths were at one time sought after about as eagerly as the tulip, and the fever ran so high that \$4,000 was refused for a single bulb. They must always hold a high rank with the florist, for, joined to a beautiful bloom of nearly every hue, is a delicious fragrance, telling the visitor of their presence by their sweet odor. The varieties are about as numerous as those of the tulip. The bulb is of rather large size, solid, and onion-shaped. It bears a spike or cone of bloom from the ground, six inches to a foot or more in height. It flowers about the middle of May, and by shading it from the sun, the season of flowering may be prolonged into June. Plant, intermingling colors, four inches deep, and eight inches apart, in a soil similar to that of the tulip, surrounding each bulb with a little dry sand. Once in three years is sufficient to replant them. By all means, plant hyacinths.

Jonquils, (*Narcissus* or *Daffodils*) are both single and double-flowered, varying in color from pure white to bright yellow. They bloom on the extremity of a stalk twelve to fifteen inches in height, surrounded by a profusion of linear foliage. The bulb is small and conical, and may be planted on any good soil; four inches deep, and one to two feet apart, according to the size of the mat they are allowed to form. They need transplanting only when they have extended over too much ground. Bloom in April and May.

The *Crocus* claims a family of at least one hundred varieties, which are of different colors, such

as yellow, blue, white, striped, &c. They flower in March and April, at a time when very little bloom is to be seen elsewhere. The bulbs are rather small, flat and solid, and require planting two inches deep, and four to six inches apart. They may remain unmolested for several years, and they flourish in any common garden soil.

The *Snow-drop* or *Galanthus* opens the first flower of Spring, not always waiting for the snow bank to disappear. It is frequently in bloom in March. The flower is of a changeless white color. The bulb is quite small, and nearly round. Plant the same as crocus, removing once in three to five years.

A GENERAL BED.

Where a limited space is devoted to bulbs, we suggest that one circular bed include all the above varieties. In a good, moderately dry soil, it will answer to trench the ground two feet, working in plenty of well-rotted manure, and plant at once, or as early as possible this month.

If a particularly fine bed, of a moderate size, is desired, throw out the soil two feet in depth, in a circle of ten feet in diameter. Return nine inches of the best surface soil, and fill the remaining space with a mixture of one-fourth fresh loam from the pasture or road-side, one-fourth sand, one-fourth decomposed muck, one-eighth leaf mold (decayed leaves), and one-eighth well-decayed cow manure, the whole thoroughly mixed, and left to stand a few days before using. The centre of the bed should be left six inches, and the outer portion three inches higher than the surrounding grounds, thus giving a gradual slope for the descent of water. After settling for a few days, commence by planting, say a tiger lily in the centre. Around this, at a distance of one foot, plant, in a circle, six lilies of different varieties, one foot apart. Let the next circle be one foot from the last, or two feet from the centre, and set six crown imperials and six gladioluses, alternating with each other, and one foot apart. For the third row, one foot from the last, make use of eighteen tulips planted a like distance apart, mingling the colors to produce the best effect. The fourth circle may contain sixteen hyacinths, and as many jonquils, alternating, and set nine inches apart. Devote the fifth and last row to crocus and snow-drops, six inches apart, alternating them; this row will contain thirty of each, six inches apart. Having tried a bed on very nearly this plan, we can speak confidently of the general effect. The taller growing varieties are allotted to the centre, and the dwarfs to the outer edge. A bed of this kind can be kept in bloom for a long time by erecting an awning over it during the hot days of Spring and early Summer. This can easily be done by setting a stake six feet in length firmly in the centre, and five more three feet high, at equal distances from each other about the circumference. Stretch a strong cord around the latter, and spread muslin over the whole when desirable, removing at night. Such a bed will afford an unending source of pleasure, and a thousand times repay the comparatively little trouble and expense of making it.

STRAWBERRIES

Can still be set out, with a prospect of a moderate yield of fruit next season, if a little extra care be exercised in transplanting. We have gathered a fine crop from plants put out October 15. When practicable, take them up with a little ball of earth around the roots, and they will scarcely feel the removal. If to be carried far, let them be well packed in moss or other material, and spread out the roots well in setting. Full directions for making beds, selecting varieties, &c., were given at page 208 of the last *Agriculturist*, and in the preceding articles.

BLACKBERRIES.

Letter from Dr. Stoms, of Cincinnati—The New Rochelle or Lawton Blackberry at the West—Native Varieties.

To the Editor of the American Agriculturist.

As the object of your publication is the collection and collation of such facts as may prove interesting and instructive to the agriculturist, horticulturist, pomologist, &c., I venture a few observations suggested by your article in the September number, under the heading "New Rochelle or Lawton Blackberry." From the exhibitions in our Horticultural Society, this season, members generally came to the conclusion that the New Rochelle or Lawton Blackberry was an over-rated fruit. Former descriptions were of a very visionary order, however, and hence the reality scarcely meets with exact justice. The largest contributor of this berry upon our horticultural tables, was Mr. William E. Mears, of Anderson Township, whose plants, I believe, were secured from Dr. Grant. That they were genuine, I have no doubt, as the berries correspond with your drawing, and the shoots with your comments. At each and every time Mr. Mears exhibited the New Rochelle or Lawton, larger fruit by one fourth, equally delicious, rich and juicy, was exhibited by other members from their own fields, growing wild. In short, besides being larger they were equal in every respect of quality. I have also visited the grounds of Mr. Mears, and find that his plants come up to your description in every position stated; the new shoots being from eight to ten feet high, and an inch in diameter at the base. Half a mile from the Nursery of Mr. Mears in an old woods pasture, is quite a large plantation of wild blackberries; and upon examination of these, I found two or three different varieties, all fine, but one variety truly magnificent, much larger and equally prolific with the Lawton. There is no possibility of a doubt, that if a selection of those I saw were marked, taken up at the proper season and transplanted, properly treated and cultivated, but they could be made to entirely outstrip the New Rochelle or Lawton. Depend upon it, the rage to send east for the latter, since the exhibitions of the past season, has very much subsided, and properly too I think. That you are perfectly honest in your descriptions of their excellence, I make no question; but if none of your wild fruit comes up to the New Rochelle or Lawton, in every aspect and particular, then we can beat you out West—that's all.

W. M. STOMS.

Cincinnati, Sept. 1st, 1857.

REMARKS.—We have not seen the wild blackberries referred to by Dr. Stoms, but we have noticed the native varieties growing in very many Western localities, and none of them we have seen deserve even mention in comparison with the New Rochelle. Mr. Mears' plants may not produce so well as the same variety hereabouts, but this we must say, that if there are wild blackberries growing in the vicinity of Cincinnati which excel, or even equal the New Rochelle (Lawton,) the enterprising members of the Horticultural Society, at that place, have been remiss in duty in not bringing them prominently before the community, and taking measures to have them propagated and disseminated. We hope they will look after the matter at once. We shall be exceedingly glad to get a few plants of anything better than the New Rochelle.—Ed.

RASPBERRIES

Should be planted this month unless deferred until Spring. Enough has already been said, in

this volume, on the value of this fruit, both for home use and for market. Now is the time to hunt up a supply of the Allen, Red Antwerp, Fastloff, Brinckle's, Orange, Franconia, &c.

DIGGING HOLES FOR, AND SETTING OUT TREES.



To the Editor of American Agriculturist.

In a former number of the *Agriculturist*, I observe a communication on this subject, and wish to add my Western experience in planting trees.

In the Spring of 1846, I planted an orchard of eighty apple trees on the side of a ridge moderately sloping to the south-east, with a rich but rather shallow surface soil, and a stiff clay subsoil. It had been cleared of its natural growth of hazel, wild plum, crab apple, thorns, &c., and cultivated in corn one year. The holes were dug from four to five feet in diameter, and about two feet deep. Half of this depth was a tough red clay, which had to be removed with a mattock, forming a retentive basin to hold water, as was proven by a heavy rain before the trees were planted. This could only be removed by bailing out. The trees were carefully planted, the holes filled with the best of the soil, to which was added for each tree, two wheelbarrow loads of a compost prepared by mixing lime, ashes, stable manure, dead animals and coarse bones, with a little earth, all well pulverized, except the bones, and well mixed. None of the compost, however, was put in contact with the roots. Much care was used in planting, and the roots given a natural position in the earth. The ground was cultivated in corn for the first five or six years, with a good dressing of manure at the last planting; then sown to wheat, and stocked down with clover and a small portion of Timothy.

And lot for these many years have I sought fruit on my trees, and with one exception found very little, and that of an inferior quality compared with similar varieties in ordinary cases.

I have cared much for the trees, pruning and whitewashing them, washing their trunks with soap, and sprinkling their heads with the same by means of a garden syringe, to expel insects, &c., and have digged about them and dunged them, and with all my care, they have been dying at the rate of two to six a year.

The trees were small when planted, and were set about the same depth as in the nursery. It was a difficult matter to keep them straight, even by tying to a stake, and they have acquired a leaning position some degrees to the north-east, thereby exposing the south-west side of the trunks to the direct rays of the sun, and when the mercury has gone as high as 104° in the shade, the bark has been killed on the sunny side of nearly every tree. The borers have also got into

them, and they all show signs of decay, and appear destined to destruction, in spite of all my labors, and I have concluded to let them go, and plant an orchard in a new place.

I propose to plant on a deeper soil, nearly level, though a little inclined to the north-east, as I understand, in the form of an equilateral triangle, or, perhaps, more properly a hexagon, with a tree in the centre, as seen in the accompanying figure—all the trees being equi-distant.

More trees can be set upon the same ground at a given distance apart, in this manner, than in any other, and I think it rather ornamental. I intend to plant in the Fall, and shall dig the holes no deeper than the ground can be uniformly loosened with a subsoil plow, and even then, I shall be a little cautious about throwing out too much of the subsoil. I design training them with low heads, and shall cultivate the ground with corn or vines for a few years, and then stock down with clean clover, which, as a general rule, I would leave to rot upon the ground.

If I have formed erroneous ideas, or if any one's experience or theory differs from mine in regard to the best method of planting trees on grounds with a tenacious clay subsoil, in a prairie region where the winds have great power, I hope it may be given through the columns of the *Agriculturist*. J. F. HUNT.

WARREN, Lee Co., Iowa.

REMARKS.—We commend the care exercised by our correspondent in planting his fruit orchard, and have no doubt but he will ultimately succeed. We are of the opinion, however, that he will find it to pay to prepare for thorough drainage in his second orchard. Trees will certainly do far the best, if set where they have a very deep bed of good soil. If to be planted on a hard-pan, it will be most economical to run a deep drain between each two rows, or, if the soil be very wet, there might be a drain under each row. If this is not practicable, then cut a few main drains, and run shorter ones from each tree. If neither of these modes can be adopted, then plow the ground into high ridge-lands, with deep, dead furrows, and plant the trees upon the summits of the ridges; and let the after-tillage be such that the high ridges and deep dead-furrows shall remain permanent. By two, three, or four plowings, each time making the centres of the lands in the same place, the ground can be so ridged as to give a difference of two to three feet between the level of the top of the ridges and the bottom of the dead furrows. Then set the trees upon the centre of the ridges, preparing deep, wide holes, filled with rich surface soil, for the roots.

Many years since, we planted an orchard in a locality where south-west winds prevailed. We set all the trees leaning to the south-west, say three and a half to five inches from a perpendicular at the height of three feet from the ground. The amount of inclination depended upon the location of the different trees, and the protection afforded by fences, groves, &c. By the time the trees had become thoroughly established, and firmly rooted, they stood very nearly erect, though, as intended, those most exposed still leaned a little, against the future effects of the wind.—Ed.

THE MESQUITE TREE.

The Secretary of the California State Agricultural Society, writing from Los Angeles, says:

"We here saw a Mesquite tree, about nine feet high and ten across. It is a beautiful tree, producing a plentiful supply of beans, which, among the inhabitants of Mexico, are used for fattening

oattle, and when pounded, they produce a fair article of flour for bread. No tree is more valuable in the desert, nor does anything surpass it as an ornamental tree.

It is also very valuable as a hedge plant. It is important that its worth for cattle feed and hedging, as well as for ornamental purposes, should be faithfully tried in the upper part of the State. If it can stand the cold, it will be found very hardy in every respect. It grows on almost any soil, without water. This and the cottonwood are the only varieties of wood found in the Colorado country. The tree is of the *Acacia* species, having the appearance of an inverted bowl, that is, it is semi-spherical.

The foliage, very thick *evergreen*. Its palmata or fern-like leaf has from five to twelve leaflets on each side of the axle. The branches shoot out low down like those of a neglected scrub apple-tree, armed with hard sharp thorns. One variety bears a screw shaped bean, the other one resembles the common string bean.

The tree grows about twenty-five feet high, seldom higher. The gum is excellent for medical purposes, and for pasting is equal to gum arabic, which it resembles. The gum exudes from all parts of the bark quite plentifully. An Indian will collect a double handful in half an hour."

Will some of the California readers of the *Agriculturist*, favor us with any additional information in regard to this tree. If half of what is said above be true, it will be worth looking after.—Ed.

A WORD FOR THE KITCHEN GARDEN.

Our observation during the past Summer, as well as in past seasons, has convinced us that enough attention is not given to the kitchen garden. The farmer neglects it, in order to bestow more time on his field crops, and others neglect it from thoughtlessness, or the pressure of other cares, or supposing that no special care is needful in its cultivation. This is all a mistake. Of how many healthful and delicious vegetables and fruits do such persons deprive themselves! We beg leave to urge a more thorough attention to the humble but useful kitchen garden.

In the first place, then, we say, let the soil be made suitably porous and dry. If naturally sandy, or gravelly to a considerable depth, no draining will be needed. But if not, one or more substantial drains should be cut through it, and then the whole should be trenched or subsoil plowed. No superfluous water will lie in that garden, at any season, and in the driest time, it will suffer little from drouth. In some cases, even this will not be enough to prepare the ground for garden purposes. It may be such a stiff, clayey soil, that draining and digging and manuring will not make it porous and warm. A garden soil should be light and kindly, one easily worked in Spring, and in which vegetables will grow rapidly. If heavy and tenacious, it may be improved by carting sand upon it, and mixing it intimately with the clay. It may be too great an undertaking to renovate a whole garden in a single year: if so, take one quarter of it at a time, and so on from year to year, until the whole is completed.

Some cultivators practice the burning or charring of clay soils with much benefit. They first make a pile of faggots and brush, then lay over it lumps of clay. After the brush is fired and partly burned, more rubbish is thrown on, and then more clay, and so on, as long as may be desired, making a half smouldered fire, which will burn several days. The heap of charred clay is then

scattered over the garden, and its effects are sometimes truly surprising.

We have not yet spoken of the importance of barn-yard manure in the garden. Whatever may be true of field crops, the kitchen garden cannot get on at all without an abundance of this useful article. Small, tough, fibrous, insipid vegetables and fruits may be grown without it, but none other. Give the ground an annual dressing of it, and one may expect to raise large, tender, juicy and beautiful products, such as it is a luxury to look at and to eat, and such as will command the highest prices in market. If any one complains that he cannot obtain manure for this purpose, we would refer him to our numerous articles on former pages, showing that by a little care in saving the refuse matters about every one's back door, fertilizers enough can ordinarily be provided for the wants of every garden.

We only add, that old gardens which seem to have lost their fertility, may be improved by thrusting the spade a few inches deeper, in the Autumn trenching, two or three years in succession, and bringing up a little virgin soil to mix with the old. And where insects are known to harbor, an annual coating of salt and lime will not be wasted.



THE HOP TREE.

We present an engraving from a Daguerreotype of a tree now growing in the grounds of Edward N. Shelton, President of the Manufacturers Bank, at Birmingham, Conn. This cut we give, partly as a matter of curiosity, and partly to elicit reliable information from those uninterested in introducing it as a commercial speculation. Before us is an advertising card on which we see strong commendations from persons we know, whose statements are contrary to the opinion we formed of this tree a few years since from an imperfect examination. Its flowers called "tree-hops," a little resemble those of a tree called "ironwood," with which we were quite familiar at the West, in our boyhood days. The one above shown is, we suppose what is called the hop-hornbeam (*Ostrya Virginica*).

A great change in life is like a cold bath in Winter—we all hesitate at the first plunge.

THE LINNÆUS RHUBARB.

We have this season given this variety of Rhubarb or Pie-plant, a fair trial by the side of the Victoria, which has been a favorite variety. In April we set out alternate roots of the Linnæus and Victoria in a row. All the roots grew of similar size, and they were taken up and planted at the same time; in short, they were treated alike in every respect. On the 16th of August the last trial was made with the Victoria, when it had become entirely unfit for use. We are now, the first week in September, (three weeks later,) still using the Linnæus, and find it almost as good as at any time during the Summer. The growth of the two varieties has been nearly uniform; the Linnæus has, however, produced somewhat the largest stalks.

Sept. 15.—To-day Messrs. Freeman & Kendall, of Ravenswood, L. I., inform us that they are still bringing the Linnæus Rhubarb to this market, and supplying pie-bakers at 4 cents per lb.

PRESERVING GRAPES.

[We are sorry the following article was not received in time for our last issue. It will still be useful, however.—Ed.]

To the Editor of the American Agriculturist.

I was surprised on reading the article in the August *Agriculturist*, to see how many ways are resorted to for the preservation of that valuable and delicious fruit, the grape—all of which have proved failures for the want of that knowledge which is necessary to the preservation of all fruits. I have been able, for a number of years past, to keep grapes until March and April, as fresh as when they were taken from the vines in the Fall, and without any saw-dust, sand, cotton-batting, paper cuttings or anything of the kind. The process is so simple, that every lover of fruits should have understood it long ere this. With your permission, I will give you the method by which I have been so successful. My mode of gathering and preserving grapes for Winter use is as follows: When they are fully ripe, suspend a basket by a strap or cord passed around the neck, thereby giving liberty to both hands for picking; with one hand hold the cluster, and with the other cut it from the vine; remove from the clusters all unripe or decayed fruit, and deposit them in the basket until it is filled. (I use a market basket that will hold about a half bushel.) Carry the grapes thus gathered to the place for packing. I use boxes about two feet square by six inches deep in the clear, with covers made to shut tight. In packing lay a newspaper on the bottom of the box, then a layer of grapes, then a paper and a second layer of grapes, which, when closely packed, usually fills the box; set the box in some dry and airy place, with the cover open or off, and let the box remain open for ten days, or until the sweating process is passed; then close the box and set it in the fruit room, cellar or garret, any place where the fruit will not freeze, or which is not extremely damp.

Grapes packed as above directed, will open at any time during the Winter or Spring following, as fresh as when packed. The only secret or mystery is, that the moisture which spoils the fruit when packed in saw-dust and other absorbents, passes off during the ten days that the box remains open, instead of being absorbed, and remaining to keep the grapes damp, and ultimately mould and spoil them. I have practiced this method for several years without the loss of a single bunch of grapes. So perfect has been my success that I have more confidence in the pres-

ervation of the grape than any other fruit. I use *shallow* boxes for packing grapes, that the moisture may the more readily escape, and that the first layer in the bottom may not be crushed by the weight above,

CHARLES CAMPBELL.

Pomona's Retreat, Aurora, Cayuga Lake, N Y

GRAPE CULTURE—NO. X.

BY WILLIAM CHORLTON.

The preservation of grapes beyond the usual period of ripening is a great desideratum, and deserves something more than a passing notice. Dryness is indispensable for this purpose. We know that imported raisins are grapes, which have had the watery portions evaporated by a warm, dry atmosphere, leaving the sugary matter and a part of the aroma. If after the maturity of the fruit, our own climate was as dry and warm as that of southern Spain, there would be no difficulty in keeping the fruit, for we could let the clusters hang on the vines, and gather them as wanted. As we have not their natural advantage in this respect, we must imitate their climate as near as we can. Consequently, no water must be used inside the grapery, and a free circulation of air be maintained, so as to prevent any condensation of moisture upon the fruit. During damp or rainy weather the upper ventilators may be partially left open, which will have a beneficial influence, preserving the texture of the skins, and preventing moldiness. If this is attended to in a house where there is no artificial heat, the fruit may be preserved on the vines until a severe frost is apprehended; and where there is a heating apparatus, for some time longer, even where the fruit is thoroughly ripe. In the retarding house, where the berries are now coloring, the bunches of some kinds may be preserved until late in March by simply keeping out the frost by fire heat, and giving air at all favorable opportunities through the Winter; but without fire-heat under glass, we must resort to other modes if we desire grapes during Winter. There is, however, a great difference in the keeping properties of many of the varieties. For instance, the *Frontignans*, *Muscats*, and several of the *Chasselas*, though early sorts, will dry up and shrink so much that they become partially raisined, and in such state will not decay, providing they are kept in a dry atmosphere, free from frost and suspended upside down, so that the berries hang loosely. There are others that have a solid texture, approaching that of an apple, as *Reine de Nice*, *White Lisbon*, &c., which, by having the bunches cut into small parts and laid upon a shelf in a good fruit room, wrapped with cotton wadding, will keep for several months, while the *Hamburgs*, and other tender-skinned sorts, soon decay after they are fully ripe, and no means has been devised to keep them for a length of time.

Grapes, both foreign and domestic varieties, may be kept a long time by choosing perfectly ripe bunches, and, if large, cut them into small parts, removing any decayed berries, and sear the end of each stalk where cut, with a red-hot iron, exposing them afterwards in a *very dry* room for three hours. Have in readiness some soft tissue paper, and wheat bran that has been well dried by fire heat. Wrap each small cluster in a piece of the paper, place in a glass jar, and fill in between with a small portion of the bran, and so proceed till the jar is filled, each cluster of fruit being surrounded and covered with the bran. Place a paper over the top, and stretch a piece of bladder over this to exclude the air. Let the jars be stored in a dry, cool room, where the tempera-

ture is kept at 40° to 45°, and use each jar as may be required. Glazed earthenware, or airtight boxes, will answer as a substitute where glass jars cannot be had, always keeping in a dry atmosphere. I may add, in connection with this subject, another method. Last April, Mr. Cole, a neighbor of mine, brought me a beautiful bunch of *Isabella* grapes, as fresh and plump as when first cut from the vine. This had been kept with others in a glazed earthenware jar, which was hurried two and one half feet deep in his garden. The flavor was somewhat deteriorated, but the experiment is well worth repeating.

For the American Agriculturist

HOUSE-KEEPING IN THE COUNTRY.

NUMBER III.—FLIES.

If I have been presumptuous in supposing that on some subjects I can dispense useful information to novices, I will confess that there are other topics on which I would gladly receive it, and sit a learner at any one's feet.

To one of these my attention has been much drawn lately, and—it is "fly time!" I was taught at school that flies were of inestimable benefit to mankind as scavengers, removing all decomposed matter and sources of malaria, far more effectually than any other instrumentality. Be it so, I don't grudge them the fields and roads, but as for the house, I am quite willing to take the contract for cleaning that myself.

Can any one furnish us with sure weapons to wage war upon these pests and torments of country life! As for poisons and traps, volumes would not contain the history of my campaigns and defeats. Fly-stone, most seducingly compounded with molasses, dries untasted in the saucer. The old-fashioned tumbler of soap-suds surrounded by a ring of bread, vexed our eyes for three whole days in the sitting room—it was unquestionably more successful, for it caused the untimely death of six flies, neither more nor less. Fly-paper waves like a banner from the kitchen mantel-piece, but no slaughtered hosts fall before it. Catching flies, I fear, is like catching fish, one must have the knack of it. But even if I had, I affirm that though I have elsewhere seen great numbers destroyed, I never perceived any diminution of the swarm, and I have sometimes fancied that a dead fly tumbling suddenly from upper air is quite as disagreeable an adjunct to a dish as a living one sipping and taking flight.

There are some remedies which I have heard of, but have not yet tried. It is a general impression that *fish oil* rubbed plentifully on paint and furniture will banish them effectually, but the plan is open to serious objections. I have also been credibly informed that there is a tree which no fly can approach—no, not within twenty yards of it—but I have not hastened to procure it, partly from want of faith and partly from misgivings that a plant so obnoxious to the fly creation, would hardly be savory to the human.

Seriously, what are we hapless dwellers in the country to do with this plague of the household? Is there no way of destroying them in the egg, like the *curculio* and the caterpillar? Does anybody know of a poison or fly-trap warranted to thin them out in a few days?

Must we forever spend the loveliest season of the year in scouring and scrubbing, fretting and fuming about a contemptible insect not a barley-corn long?

I hope much from the experienced housekeepers who read the *Agriculturist*. For the present, I can only continue to keep my house in twilight darkness, painfully shutting up the windows after

the "lords of creation," who always will let in a glare of light. The dishes must still come upon the table imprisoned in strong-holds of wire gauze, and the African of tender years still wag the fly-brush over our perplexed heads.

No housekeeper, I contend, ever felt any sympathy for Uncle Toby's much-vaunted sentiment: "There is room enough in the world for thee and me." We are all at issue with him on this very point. There is not room enough in the world, O fly! for thee and me. Between us it shall be only war, and that continually.

Before an answer can arrive, fly-time will be over. Let it rest, then, till next March, and ere the first blue-fly buzzes in my ear I shall expect it.

EMILY.

Windholme, Pa., Sept. 8, 1857.

PICKLING EGGS.

As our readers well understand by this time, we advocate the plan of keeping fowls in such a manner that they will produce fresh eggs the year round. This they will do in the coldest weather, if kept in a warm, clean place, and supplied with unfrozen earth, gravel and lime. They must also be fed with flesh food to make up for the lack of animal food which they gather in warm weather in the form of insects of various kinds. Fish, or refuse meat of any kind will be devoured greedily by them. Milk curd, sour or even sweet milk can be substituted for meat, or may be given with it. But many persons fail to secure the necessary conditions for an abundant supply of fresh eggs; and it is often desirable to pack them not only for future home use, but also for transportation to distant markets. The best recipe we can give is the following, which some of our friends have employed with entire success, their eggs having kept perfectly through a whole year or more: Procure a water-tight firkin, tub, cask or barrel, according to the amount to be put down. Pack in sound eggs (examined as below) setting them with the small end downward. When all the eggs on hand at any time are packed, cover them with a pickle made by dissolving in four gallons of water, two quarts of unslacked lime and two quarts of salt. The water will not dissolve all the lime, but the pickle should be made two or three days before it is wanted, and be frequently stirred. The milky liquid is to be poured off to be put upon the eggs. The cask must be set in a cool place, but not where it will freeze in winter. Eggs are now (Sept. 10th,) worth 15@16 cents per dozen in this market, and now is a good time to provide for next winter when they will cost 3 to 6 cents a piece, judging from two or three winters past.

TESTING EGGS is a very simple process. Take them into a dark or partially darkened room, and hold them between the eye and a lighted candle. If good the light will shine through them with a uniform reddish glow. Every one should use this simple test before buying eggs, or breaking them for cooking. A dozen can be examined in two minutes by the merest novice.

GLASS NEST EGGS.

These are a recent 'invention,' which may not have been seen by many persons. They are made of white glass, and of so nearly the shape and appearance of an egg as to deceive not only feathered, but sometime unfeathered bipeds. At least, we saw a bonneted "Biddy" call at an agricultural warehouse recently, and noticing a lot of the glass things, she inquired "what they asked a dozen for eggs?" These are very convenient nest eggs for cold weather, as they are

easily kept clean, are broken with difficulty, are not devoured by animals of any kind, and they are equally as good as a *bona fide* egg in the nest. They are, or should be, on sale at six cents each, or fifty cents a dozen, wherever agricultural apparatus is kept.

FOR THE BOYS AND GIRLS ONLY.

FARMERS' GIRLS.

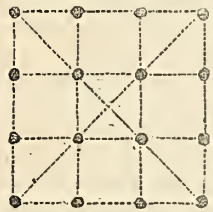
[A counterpart to "Farmers' Boys," on page 42, of this volume.]

Up early in the morning, just at the peep of day,
Straining the milk in the dairy, turning the cows away;
Sweeping the floor in the kitchen, making the beds up stairs,
Washing the breakfast dishes, dusting the parlor chairs;
Brushing crumbs from the pantry, hunting foreggs in the barn,
Cleaning the turnips for dinner, spinning the stocking yarn;
Spreading the white linen down on the bushes below,
Ransacking every meadow, where the red strawberries grow;
Starching the "fixens" for Sunday, churning the snowy cream,
Rinsing the pails and strainer down in the running stream,
Feeding the geese and turkeys, making the pumpkin pies,
Jogging the little one's cradle, driving away the flies;
Grace in every motion, music in every tone,
Beauty of form and feature thousands might covet to own,
Cheeks that rival Spring roses, teeth the whitest of pearls—
One of those country maids is worth a score of your city girls.

ANSWERS TO PROBLEMS.

We present a list of answers received up to Sept. 17.

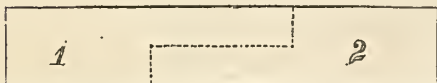
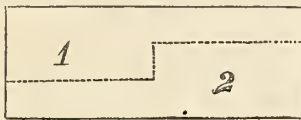
PROB. 7.—Trees; 10 rows with 4 in the row.



This is a very simple arrangement, but, just as we expected would be the case, a good many boys and girls have tried hard to get something difficult out of it, as is shown by lots of odd figures sent in. These attempts remind us of one who told a company they could not spell cat as he would write it. They all tried their hands, or tongues at it, thus: kat, katt, catt, caght, kaght, catte, katte, caghte, kaghte, caat, kaat, caaght, caate, kaate, caaghte, caitt, kaitte, caighte, &c., &c., and finally they all gave up, and asked him he would spell it. His answer was—c-a-t.

Drawings of the orchard, as engraved above, were sent in by J. R., Albany, N. Y.; Serenus Raesly, Northampton Co., Pa.; Aaron B. Huffman, Hunterdon County, N. J.; David Ellsworth, Hartford Co., Conn.; "Yankee," Bloomfield, N. Y.; Chas. Reed, Alleghany Co., Pa.; Hannah Parry, Burlington Co., N. J.; Chas. M. Foulke, Bucks Co., Pa.; "Fourteen," Auburn, N. H. (2 answers); Gilbert E. Sherman, Penn.; Joseph H. Simpson, Bureau Co., Ill.; Chas. Lamkin, Jr., Seneca Co., O.; R. C. Fulton, New Perry, Penn.; N. C. Mitchell, Magog, Canada East, (one of the prettiest drawings received); Martin Stewart, Schoharie Co., N. Y., (beautifully drawn); Thomas J. Haile and Chas. B. Billingsley, Baltimore Co., Md.; Normen Lounsbury, Tioga Co., N. Y.; Robert Aiton, New-York City; Emily Lyon, Walworth Co., Wis., (both problems well done). Several other ingenious solutions with drawings, (which came too late to be engraved,) were contributed by "Fourteen," Wm. L. Lamborn, Lancaster Co., Penn., (quite pretty); Thos. J. Haile and Chas. B. Billingsley, &c.

PROB. 8.—To make a board 3 by 8 feet fit an opening 2 by 12 feet, with only one cutting.



These drawings were sent by each of the following: Serenus Raesly; W. T. Lord and E. M. Perry, Hartford Co., Conn.; Aaron B. Huffman; "Yankee," P. B. N., N. Y. City; Chas. M. Foulke; Geo. A. Thomas, Cattaraugus Co., N. Y.; "Fourteen," Joseph H. Simpson; N. C. Mitchell, Magog, C. E., Martin Stewart, Fultonham, N. Y.; Emily A Lyon, Darien, Wis. A number of the above sent paper models of the board cut as required.

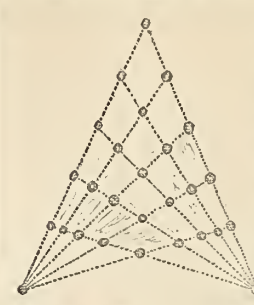
PROB. 9.—Six weights to weigh any number from 1 to 360.

Answer—1, 3, 9, 27, 81, 243, by "Yankee," Bloomfield, N. Y.; Robert Aiton, N. Y. City.

As stated in last paper, Master "fourteen" sent a draw-

ing giving more than asked for. A number of boys and girls have sent in solutions. We will call this

PROB. 10.—27 trees; 10 rows with 6 in a row.



Oswego, N. Y.; D. M., Me.; D. M. Goodrich; Wm. P Marcheron, Iowa, and others.

NEW PROBLEMS TO BE ANSWERED.

A large variety of new problems have been contributed by our young friends, from which we can select only a few. We have had about enough of orchard problems for the present, and after those given below we shall only insert now and then one of especial interest of this kind. We are looking ahead for more time to devote to chapters of special interest to boys and girls, on a variety of instructive and entertaining topics. Next Summer, if not before, our young readers may expect particular attention.

PROB. 11.—By "Rusticus," Morrow Co., Ohio. A Florist planted 31 varieties of flowers (only one of each kind,) so that he had one circle containing 18 varieties; 7 circles with 6 varieties in each; 6 straight rows with 6 varieties in each; and 3 straight rows with 6 varieties in each. This makes a pretty, circular bed, if so arranged that small plants are set where they come nearest together. How shall they be set? We will give an engraving in our next of the best drawing received.

PROB. 12.—By Serenus Raesly, Northampton Co., Pa. There are two equal circles, each containing an area of 196 3/4 square feet. The centers of these circles are 30 feet apart. What will be the cost of paving with pebbles the space between them; that is the space enclosed by two lines drawn to touch the outside of the two circles, not including any of the ground in the circles themselves; the cost of the paving to be reckoned at 44 cents per square yard?

PROB. 13.—Suppose all the gold obtained from both California and Australia, to amount to \$500,000,000, how large a box would it take to put it all into, supposing gold to be worth \$18 per avoirdupois ounce, and reckoning it to be 19 1/2 times heavier than the same bulk of water. A solid or cubic foot of water weighs 62 1/2 pounds.

PROB. 14.—By Chas. M. Foulke, Penn. To plant 11 trees in 11 rows, with 3 trees in each row.

PROB. 15.—By "Young Egyptian," Southern Illinois. To plant 9 trees in 10 rows, with 3 trees in each row.

PROB. 16.—By the same. To plant 15 trees in 16 rows, with 3 trees in each row, and also to have 2 rows with 4 trees each, and 2 of 7 trees each.

PROB. 17.—Sent by "Yankee," Bloomfield. To form a square made up of 64 smaller squares, (8 each way,) and to place in them the numbers from 1 to 64, so that each column shall add up just 260. This is not new to us, but may be to many of our young readers.

PROB. 18.—By D. M., Maine. How much wheat shall I carry to mill, in order to bring back 10 bushels after being tolled one-tenth?

No problems accepted without answers accompanying.

Corn—An Agricultural Song.

Tune—Sparkling and Bright.

Composed and Sung at a "Husking-Bee."

ED. AMERICAN AGRICULTURIST.—I send you this rural song which may serve

"To steal unfelt the tedious time away."

Better than gold is our corn ten fold
From the fertile earth advancing,
'Twill give you health and bring you wealth,
Your happiness enhancing.

Then husk your corn before 'tis born
For the pumpkin pie is waiting,
And fill your maw 'tis Nature's law
To give yourselves a baiting

With it we make a Johnny cake,
Or roast, or fry, or griddle,
And puddings good, be it understood,
Are stirred up with a paddle.

Then husk your corn, &c

When it is green, as we have seen,
'Tis first-rate boiled or roasted,
And when 'tis dry who dare deny
'Tis quite good popped or toasted.

Then husk your corn, &c.

Turkeys and hens count it by tens,
And never stop to taste it

And ducks and geese, a pint a piece,
A bushel they'll soon waste it.

Then husk your corn, &c

Squirrels by day, red, black and gray,
To store it in their "eries,"
No questions make for conscience sake
But snatch it like the furies.

Then husk your corn, &c

The brave chirpmuck with right good pluck
Round it you'll see him lurking,
With pouting lip he'll seldom chirp
Or talk like boys while working.

Then husk your corn, &c.

At mid of night with much delight,
Old Bruin filled his basket,
By light of moon the knowing coon
He ate it as he husked it.

Then husk your corn, &c

The grunters all both great and small
Will squeal to hear it rattle.
And then 'tis good as any food
For horses, sheep or cattle.

Then husk your corn, &c.

REMSEN, Oneida Co., 1857. JOHN D. TEFFT.

OUR BASKET

Into which are thrown all sorts of paragraphs—such as NOTES and REPLIES to CORRESPONDENTS, with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources.

The Basket was heaping full Sept. 14th—a few tems since received have been stowed in the "chinks." Letters for insertion or reference, are on hand from Phebe, Farmer's Wife, Gleaner, &c., &c., most or all of which will receive attention next month.

Drawings and Sketches Wanted.—We desire to give more space hereafter to instructive cuts. These are expensive—engraver's work is costly—but we consider money well expended in them. We shall be obliged to all our readers who will send us original drawings or sketches of various objects of interest, such as buildings, trees, plants in short of every thing new, interesting and instructive, which can be better shown by pictures and words, than by words alone. From those contributed we must of course use our own discretion in regard to the most suitable to be published.

Cucumber Tree—Celery.—T. W. Rogers, of Adams Co., Ill.—The botanical name of the Wild Cucumber tree is "Magnolia acuminata." Full directions for raising Celery are given on page 183 of this volume. (August No.)

Honey Locust.—S. M. S., Miami, Co., O.—Plant Honey Locust (*Gleditsia triacanthus*), seeds in early Spring in nursery rows, and cultivate for two years at least previous to setting in the hedge.

Thorn—Walnut—Our Western inquirer should plant both of these in the Fall. They may be planted in the ground at once or put in boxes of earth till next Spring. Thorns are often two years in vegetating. It is better to cultivate all hedge plants for two or three years in the nursery rows before planting in the hedge row.

Evergreens—Planting.—W. Thomas, Summit Co., O. Fall is not as favorable as Spring for planting evergreens: This question has been several times answered. See pages 98, 109, and 195, of this volume.

Fall Planting of Small Fruits.—Frank A Griffin, Rock Island Co., Ill. Blackberry and Raspberry plants are best set out in Autumn, as soon as the leaves are withered by frost. The same may be said of currants, gooseberries, and kindred shrubs where rooted plants are to be transplanted. If cuttings are to be set out, the early Spring season is best for putting them into the ground. The cuttings may be made at any time between the last of November and first of March, except at the South, where cutting should not be prolonged beyond the middle of January. Cuttings may be kept, from time of making to setting, buried in dryish sand in the cellar. Blackberry and raspberry plants are propagated by rooted off-shoots, and not by cuttings.

More Strawberries.—Wm. P. Tompkins, of Scarsdale, Westchester Co., N. Y., informs us that he picked the present year 187 quarts of Strawberries from a plot measuring only 2 1/2 square rods (or 715 square feet). The berries were mostly measured after being assorted and prepared for the table. This is at the rate of 68 quarts, or 2 bushels and 4 quarts to the square rod. These were on two plots; one 5 by 35 feet. Mr. T.'s, first attempt at Strawberry culture, was set May, 1855, in 5 rows, and the plants 7 inches apart in the row; the other, 12 by 45 feet, set in September, 1855, rows 16 inches apart, and plants 10 inches from each other in the row. They were covered the following Winter with 3 to 4 inches of dry leaves. The soil light, dry and sandy, with hard coarse gravel, 18 inches below the surface. The ground has only been in use four or five years as a garden, but lightly

manured, and dug only 10 to 12 inches in depth. Mr. T. estimates the cost of picking worth at least \$1 per bushel, besides the labor of cultivation. The varieties he thinks were mostly the Boston Pine, with a few Hovey's Seedlings, and two other varieties. Large berries would not cost so much to pick.

Strawberries—Hybridizing.—J. G. Marchant Adams Co., Ill. The strawberry is not usually a dioecious plant. Some varieties, however, have stamens and pistils on the same flower, others have pistils alone—rarely does a plant have only stamens. The seed and not the berry is affected by dusting the pollen of one variety upon the pistils of another. Seed planted from such fruit will produce a hybrid. A particular variety can only be propagated with runners or division of roots. The seeds from a single stalk will produce a dozen or more varieties.

Raspberries.—Sept. 11th, we received from Chas. W. Elliott, Esq., a bunch of Raspberry plants, heavily loaded with fruit in all stages of growth from the just closing flowers to fully ripe berries. A box of the just gathered fruit accompanied the plants. The fruit is of moderate size, rather above the wild varieties, and of good flavor. Berry, nearly round, red color. Mr. Elliott calls it the "Bagley Everbearing," and says it is hardy, needing no covering, and yields a moderate succession through the season. The plants before us indicate that it will continue bearing until stopped by frost.

Ground or Winter Cherry.—Reuben T. Osterlander, of Geneva, Walworth Co., Wis., offers to send enough seed for a small plot to any reader of the *Agriculturist* who will forward a directed and post-paid envelope—so far as his crop will go. He has both yellow and blue varieties.

Cheap Fruit.—An American writing from Gibraltar, says: "I bought two pounds of Grapes, two of Apples, two pounds of Peaches, two of Lemons, and a basket to carry them in, and all for a quarter of a dollar."

Grapes at the North.—Wm. Pringle, of Markham, Canada West, will find the Concord Grape, sufficiently hardy for his latitude; it ripens its fruit several days earlier than the Isabella, and is hardy. The Clinton is also well adapted to cold climates and short seasons. The Canadian Chief is a new Grape for which large claims of hardiness and good quality are made. A season or two will decide the question.

Sugar-Cane Suckers.—T. R. J., Jr., Accomac Co., Va. The suckers spring directly from the stumps of plants cut down early in the season, as will be seen on close examination, and they may be treated in all respects like the original stalk, if forward enough to ripen. They cannot injure the old roots, as these will not be needed next year, it being advisable to cultivate this plant as an annual—sowing new seed every year. When not badly frozen, the roots will send up new shoots a second year, but according to the experiments in France and in Africa, the second year's canes are very slender.

Chinese Sugar-Cane in Va.—R. Sherman, of Prince George Co., Va., writes that on the 17 he visited a friend in Dinwiddie Co., who planted 4 ounces of seed, from which he made three barrels of excellent syrup, and two barrels of vinegar from the skimmings, and the hogs eat the stalks after the juice was expressed. Amount of ground not stated.

Cold Frames.—J. M., Eppley, Pa. See page 219.

Onions, Keeping, &c.—D. J. Weller, Bullett Co., Ky. Onions should be kept during Winter in a cool, dry situation away from frost. If placed in a warm room they commence growing and soon decay. They will retain their freshness for a long time if put in barrels with dry sand sifted in among them. Sets may be kept in the same manner.

Beet Sugar.—Benj. Butterfield, Will Co., Ill. The manufacture of this is now not attempted in this country. It will not pay unless on a large scale, as in France, with extensive works and much experience and skill.

Manures for Long Island.—W. I. Gould, of Suffolk Co., L. I., asks "what is the best manure for Old Long Island." This question is about as indefinite as to ask what is the best medicine for a sick man without naming his disease. Long Island has almost every variety of soil, and what would be good in one would be worthless or injurious in another. As in medicines, so in manures, there has been a great amount of humbug in setting forth some specific or cure-all. Thus Brandreth's Pills have been recommended as being always good for about every disease that flesh is heir to. So certain manures have been recommended as universally beneficial. This is all wrong. On a heavy, damp, cold, sandy soil, lime is usually beneficial. On a clay soil sand is often a good application, while on many sandy soils, clay is the best possible application. On some compara-

tively poor soils of Long Island fish produce almost miraculous effects. If we could recommend but one manure for all kinds of soil it would be good stable manure before all things else. With this we would mix all the muck or swamp mud possible, in all cases. Guano, if genuine Peruvian, is very good almost everywhere. Bone dust, finely ground, is also good anywhere.

Decayed Leaves—Saw-Dust.—Junius May, Davis Co., Ky. These are of a character similar to muck, and are equally good for composting with manure. Saw-dust is useful, especially as an absorbent, but not as valuable as muck and leaves; the latter decay more readily, and also contain more nitrogen or ammonia.

Arboricultural Works.—S. S. W., of Lancaster Co., P., asks what books we recommend for instruction in the culture of ornamental and forest trees. There is a deficiency in this class of literature which we would be glad to see supplied. "Loudon's Encyclopedia of Plants," is too voluminous and expensive (selling at \$17) for general use. "Meehan's American Hand-Book of Ornamental Trees," is not sufficiently explicit, or extensive. It is a small work, selling for 75 cents, and if one only wishes for a description of ornamental trees this will be of service to him.

Winter Management of Bees.—Many different modes of protecting bees during the Winter have been recommended and tried. J. M. M., of Schuyler Co., as the result of more than twenty years' experience, advocates the plan of burying the hives in the ground. He digs a ditch in a gravel or loam soil, deep enough to bring the top of the hive, when resting on scantlings, even with the surface of the ground. He covers the bottom of the pit with straw, and packs eight or ten inches of straw or litter around, between and upon the hive, and finally heaps up the dirt taken from the trench, making a furrow if necessary to carry off the surface water. Here he leaves the bees from the 1st of October until they can get a living in the Spring, with a saving, as he thinks, of two-thirds of the honey which they would consume if left unprotected. . . . There is undoubtedly a saving of honey when bees are kept in perfect repose, and are protected against sudden excessive changes of temperature. It is a nice matter, however, for inexperienced persons to decide when to carry bees into Winter quarters, and especially when to bring them out again to the open air. The great difficulty with Mr. M.'s plan seems to us to be that it does not provide sufficiently for the ventilation of the hives, and for keeping them dry by ventilation. We should expect to find the combs black and mouldy after such treatment, even if the bees lived; and we are inclined to think that the most essential thing, so far as protection against extreme cold is concerned, is upward ventilation sufficient to carry off all the vapor of the air.

Bee Moths.—See page 164. (July No.)

Gapes in Chickens.—Samuel Lowery, of Nashville, Tenn., writes that he is sure the cause of the gapes is a little red worm in the throat which must be removed. His 'best half' has cured a great many thus: "Double a horse-hair; put it down the throat of the fowl, and twist it round, and then pull it out. It will bring out the worm, and if its stay has not been too long there, a cure will be effected." Mr. L. thinks the various remedies proposed, such as, red and black pepper, salt, powders, &c., have only been of temporary service "in strengthening and stimulating the fowl and momentarily neutralizing its sensibility."

Hog Cholera.—Wilton, Alleghany Co. We, and all others, are as much in the dark as yourself on this point. The best specific we have heard of, to keep the animals clean, and give an occasional dose of salt. Dr. Dadd, Vet. Surgeon, recommends "mixing equal parts of salt, powdered charcoal and sulphur, giving each animal a table-spoonful with its food twice a day; keep clean and warm."

Crops in Miami Co., O.—A correspondent writes; Sept. 14, "Wheat, oats and flax, have been gathered to exceed any former year. The Corn crop in the Miami Valley is tremendous; there never was as much in any former year, and many farmers are calculating on 120 to 135 bushels per acre. Stock hogs are selling on foot at \$5 75, per 100 lbs. gross weight."

Maine Items.—We extract the following items from a letter from Mr. Wm. P. Atherton, of Hallowell: The Summer wet and unfavorable, but an abundant yield of most kinds of produce, especially of hay. Grain good, except on low wet land. More wheat and barley sown than usual. The two-rowed barley considered best, is taller, yields better, is cleaner, and ripens later, at a time when it can be harvested conveniently. Weevil (midge) and rust somewhat injurious. A new kind of wheat, called the Java or Egyptian, promises well. Mr. Tabor, of Vassalboro, obtained 28 bushels to the acre. Corn and potatoes promise well; not much complaint of rot up to

Aug. 29. Apples scarce; fruit trees badly injured last Winter. Season too wet and cold for the Chinese Sugar Cane.

White Rye.—We have received two samples of this, one from Wm. B. Doubleday, Binghamton, N. Y. the other from Phillip A. Mason, near Blackwood Town, Camden Co., N. J. They are both very fine, and if this variety grows true to its kind, and is equally hardy and productive with that heretofore cultivated, we see no reason why it should not wholly take its place. The heads received from Camden Co., are long, and well filled with plump kernels. Mr. Doubleday, says, "Myself and family prefer the rye bread (of the white variety) to that made from the best superfine wheat flour we can procure. It is lighter, more moist, and sweeter, and I think more wholesome."

Hungarian Grass—Millet.—Taber & Nettleton, Decatur, Ill. The seed you sent under the above name is not a grass but a millet. From an examination we think it the German or Hungarian variety, (*Panicum Germanicum*), which is an annual, and of course will not make a permanent stand like grass. It is a valuable forage crop, requiring the same treatment as the common millet.

Tall Corn in Illinois.—In a postscript to a letter, dated Sept. 4, Messrs. Taber & Nettleton, of Decatur, Macon Co., say: "We have $\frac{1}{2}$ acre of Chinese Sugar Cane already averaging 12 feet in height; corn from 16 to 18 feet—can't reach the ears. 'Fact'—Illinois to the last."

Large Yield of Flax Seed.—A Challenge—David Mitchell, of Piqua, Miami Co., O., writes: "My son D. S. Mitchell, 2 $\frac{1}{2}$ miles South of this place, sowed one bushel and 41 lbs. of flax seed last Spring, (on how much ground?) and harvested seventy-nine bushels and 44 lbs. Seed loaned from Messrs. Balls' Oil-Mill, near Piqua and the crop purchased by them at \$1 per bushel. They will certify this statement. Beat this who can."

Potato Rot.—L. Humphrey, of Windham, Ohio, advises gathering potato balls (seed) now, drying carefully and planting in drills next Spring. He thinks that new varieties may be produced in two or three years which may be less subject to rot.

Judge Barling's Corn Outdone.—H. A. Sheldon, of Middlebury, Vt., writes that an old variety of sweet corn which has been in his Father's family for 40 years was planted by the side of the Darling on the same day, and the former matured a week first, and is the sweetest and tenderest. From most other places we hear a different report, though not from all. The weather has been so unusual the past season, that scarcely any new plant has had a fair chance to show its merits or demerits.

King Philip Corn—Premium Seeds Coming Back.—Hubert Greaves, of Sandusky County, Ohio, sends us ripe samples of the above corn, gathered Sept. 15th. He reports, "one bushel of ears from the little packet we sent him. . . . The corn is very fine, some of the ears measuring 14 inches long and 6 $\frac{1}{2}$ inches round. . . . It looks very poor by the side of our 14 feet high corn, but will pay to raise for the grain it shows."

Lyman Wilder, of Whiteside Co., Ind., writes that; "Away up here in the North Indiana woods, I planted the King Philip corn, June 1st, and on Sept. 1st, (3 months,) I had corn hard enough to grind." He suggests that by planting this variety on wheat ground, it will be out of the way by August 25th.

Ayreshire Cows.—E. Traver, Dutchess Co., N. Y. By looking at our advertising columns occasionally, you will find plenty of Ayreshire cattle advertised for sale, from which you can, no doubt, make good selections. The merits of the different kinds of cows have been so fully discussed in the pages of the *Agriculturist* heretofore, that it is unnecessary to say more of them now, when, perhaps, after all, it is chiefly a matter of taste or fancy that will govern the purchaser in his selections. In the "Rural Surroundings, No. 2, page 76, April No., will be found a description of Ayreshires, and other breeds. As to importing Ayreshires from Scotland, we think they can be obtained of equally good quality in this country—either in New-York, or Connecticut—and at half the cost of importing them. There have been so many good Ayreshires brought here from Scotland, and their descendants so frequently offered for sale at reasonable prices, that one need not hunt far nor long to obtain them.

Sterile Cows.—L. Barnett, of Springfield, says he has a very fine cow which he cannot get to breed, and that a reliable remedy would not only benefit him in particular, but stock raisers in general. The reasons why cows or heifers fail to breed are so various, that no certain answer can be given to the question. Free martens, that is heifers twinned with a bull, scarcely ever breed, from well known physiological reasons. Other heifers may

fail to breed from being kept from birth in too high condition, although this is not a common fault. When a heifer or cow is obstinate in not breeding, after freely receiving the male, we know of no better way than to reduce her condition, gradually, to a low state—poor even—and keep her so during repeated trials. If a series of months does not, with due attention on the part of a reasonably sure male, get her in calf, we should consider the case hopeless.

Hay Caps.—We took occasion to commend these pretty strongly at page 152, August No., as well as previously, and reports of their utility are often received from those who adopted our suggestions. Here is one of a number of like import. E. D. Newton, of Alleghany Co., N. Y., writes Sept. 7th. "...I ventured to try twenty hay caps this year, and although made from cloth of an inferior quality, I am satisfied they have saved me double their cost. All my neighbors are unanimous in the opinion that they are excellent for a wet season..." Hay growers will do well to make a note of this matter, and next Winter, when they have leisure, turn back and read the descriptive article at page 152, and then make up a supply against next Summer's haying time.

Potato Digger.—"Subscriber," Wis. We cannot judge of the practical operation of your proposed machine from the rough sketch forwarded. You can best test it by building a machine and trying it. It may work on clean loose soil.

Connecticut Bushel.—By a recent act of the Conn. Legislature establishing the number of pounds in a bushel, Wheat is hereafter to be reckoned at 60 lbs. per bushel, Buckwheat at 48 lbs., Corn 56 lbs., Rye 56 lbs., Barley 48 lbs., Oats 32 lbs., Rye and Corn Meal 50 lbs., Beans and Peas 60 lbs., Beets of all kinds and Potatoes, 60 lbs., Common English Turnips 50 lbs., Ruta Bagas 60 lbs., Carrots 55 lbs., Onions 50 lbs., Parsneps 45 lbs.

Penn. Agricultural Journal.—Alex. F. Brown, Mercer Co., Pa.—Just such a paper as you describe, we hope to make the *American Agriculturist*. You will find much in the present volume, forwarded to your order, but this volume is not half of what the next one will be when we contemplate adding several pages even to its present size, and improving it in every respect. We are determined not only to equal but far excel any other paper published, whether for the farmers of Pennsylvania, or for those in any other state. We know of no such paper in Westchester, as the one you inquire for.

Wine Making.—J. M. Fishburn, of Rockbridge Co., Va., inquires for himself and others for a simple recipe for making wine on a small scale. Wine may be made from the Isabella and Catawba Grapes, on a small scale, by picking the bunches when fully ripe, and after sorting out any unsound or immature berries, put them in a tight box or barrel, and mash the pulp with a pounder, having the lower end square. Reduce the fruit in this manner to a fine mass, but do not break the seeds while pounding. Place the whole in a coarse bag or sack and submit it to pressure. If a cheese or portable cider press is at hand, make use of it, otherwise place the sack between planks and lay stones upon them. Leave in a moderately cool place for two or three days. When all the juice is expressed, which is usually from 12 to 15 quarts per bushel of grapes, put it in a clean sweet keg or barrel, filling within three or four inches of the bung, and leave for two or three weeks to ferment, when the wine becomes clear. Fill the cask full from some reserved for that purpose, tighten the bung, and place in a cool cellar until February or March, when it should be racked off into clean casks, kegs or bottles, entirely filling them, and bung or cork securely. In this condition it will improve by keeping. If the liquid is not perfectly clear after one racking, the process should be repeated, using perfectly clean casks, or thoroughly wash the old ones. It is better to omit the bottling until the wine is one year old, and then the heads of the corks should be coated with wax. Some add a little sugar to the juice, say one pound to each gallon, but with perfectly ripe *Catawbas* there is no necessity for this.

Tomato Wine.—Benj. Butterfield, Will Co., Ill.—Select and wash well ripened fruit; press out the juice; add 1 pint of water and 1 lb. sugar to each quart of juice. Set away in a partially filled vessel to ferment similarly to grape wine. After fermenting sufficiently put in tight kegs and keep in a cool dry cellar until Spring, when it may be carefully drawn off and bottled, adding a small piece of root ginger to each bottle. When opened for use a brisk effervescence takes place, and to one skilled, even in grape wines, it is difficult to distinguish its origin.

Fluid or Gas Lamps.—During the past month, we have used, upon our study table, one of "Andrew's Patent, Self-Generating Safety Gas Lamps,"—a pretty long name for a very simple and neat affair. We are pleased with the lamp, and inclined to think it superior to any one designed for burning fluid which we have previ-

ously seen. As we have formerly written (Vol. XIII p. 24), not one in a hundred of the reported "explosions" are explosions, but simply the firing of the fluid, by carelessly filling the lighted lamps, or breaking them. Andrew's lamp can scarcely be filled when lighted, and dropping it, or even moving it suddenly, puts out the flame, as we more than once proved by being left in total darkness. The common fluid is changed to gas, in an invisible wick, and burns with a clear flame.

Apple Slicer.—Sometime since we received from A. M. Collins & Co., of Philadelphia, Penn., one of "Pratt's Automaton Apple Slicers," and have waited the opinion of a Pie-Baker of our acquaintance as to its merits. He reports that it slices the apples finely when they are not too soft; if soft or tender, they break from the core before the last portion is cut up. A further trial of our own confirms this opinion. We call it an ingenious, and, on the whole, useful instrument.

Cider for Apple Butter.—We can scarcely give our Southern enquirer a definite rule for boiling down cider, as the strength required depends upon the length of time it is to be kept. Our method has been to take 6 to 12 gallons of cider for a bushel of Apples, boil down one half, put in the dressed apples and then boil down according to the time required to be kept, using the largest quantity of cider named, and most boiling for the best keeping sauce or "Apple Butter."

Green Corn Drying.—Stephen Culver, of Newark, N. Y., has applied for a patent for a new mode of drying green corn. The whole ear is divided lengthwise into quarters or smaller pieces, and the corn dried upon the pieces of cob without previous boiling. This is said to be a superior process, but we do not see exactly how or why it is so.

Green Corn Samp.—Our esteemed correspondent, "Edith," has furnished us with an interesting article on this subject, which we have not now room to present entire. The following is the substance: Take a dozen or more ears of corn and pass them gently over a common jack-plane, until the hulls are reached. Then scrape the cobs with the back of a knife, to remove the adhering parts, and put the shaved corn into a kettle containing four times its bulk of boiling water. Add a little salt, and stir the whole until it boils. Keep it boiling three or four hours over a slow fire. Let this be eaten with good rich milk, and it will prove a dish that the most fastidious cannot fail to relish.

Corn Starch.—J. R. C., of Council City, K. T., inquires for a method of making corn starch on a small scale for culinary use. Perhaps some subscriber can offer valuable suggestions on this topic. Usually it is cheaper to sell the corn and buy the starch, as it is much more cheaply made on a large scale, but in remote Western towns, where corn is cheap and transportation dear, it may sometimes be convenient to make a little home-made starch. We trust some one will reply, as we have neither experience nor observation on this point.

Cooking Summer Squash.—"Edith" suggests the following: Place the squashes whole in boiling water. When soft, spread a cloth over a colander and put them into it; cut open, scrape out the seeds and scoop out the pulp from the rind. Mash them finely, pressing out all the water. Season with butter, pepper and salt. After which we recommend to put them into a sauce-pan, to be re-heated, to make them still dryer before serving upon the table.

Pickling Tomatoes and Peaches.—Mrs. M. A. H. Rowe, of East Chatham, sends the following items from her own successful experience: **Tomatoes**—Put them, full grown but unripe, into weak brine. After nine days remove them, slice thin and put into a kettle of water with one ounce of alum to one peck of tomatoes, and heat to a boiling point. Then take them out and put into jars, or a sweet oak tub, with one ounce each of ground cinnamon, cloves and allspice, and one pound of sugar, (to 1 peck ?) with vinegar enough to cover them. Spice and sugar each layer as put in. **Peaches**—Wipe off the down with a wet cloth; stick 4 cloves in each; lay them in jars and pour over them a boiling hot syrup made of 1 quart of vinegar, 3 pounds sugar, 1 ounce cinnamon, and a few kernels allspice. After 24 hours, pour off the pickle, heat and return it. In 24 hours more heat the liquor again, and the pickles will then keep without trouble. Plums and cherries are nice when treated in the same way. Pears, quinces and apples, pared, cored and boiled until tender, and then treated as described for peaches, are excellent.

Half-Price.—A Western paper offers to add Mr. or Esq. to the names of such subscribers as will pay 25 cents a year for the extra handle to their names. For 50 cents he will put on both handles thus: Mr. Peter Nobody Esq. N. B.—We have a mail clerk who offers to do this for half-price. Who speaks first?

Resin Soap.—J. H., of Henry Co., Ill. Resin, (incorrectly called Rosin,) is used as a partial substitute for grease in soap-making, the proportion depending upon the quality of soap desired. The proportion is usually one-fourth to one-third of as many pounds of resin as of tallow. The resin, pounded fine, is added at the last boiling before hardening the soap. The process, however, is an art to be learned by practice, and like any other manufacture, to be done well requires a full knowledge of the minute particulars. J. H. will find a long article on soaps in "Ure's Dictionary of Arts, Manufactures, &c,"

A Cellar 'up Stairs.—H. A. Sheldon, of Middlebury, Vt., recommends those without the conveniences of an under ground cellar, the following substitute: "Take a box of any convenient size and set it within another of similar form, but enough larger to admit a layer of dry sawdust four or five inches in thickness to be closely packed between the two, both at the bottom and sides. There may be a cover on both boxes, or only one on the outside box. In a room having a fire by day, such a box will keep vegetables enough for a small family during a month or so, which will be a great convenience to those living at a distance from market. In very cold weather the box may be left open during the day." It will also do for a Summer ice-chest, by putting the ice in, in some water-tight vessel.—En.

Fencing.—A. Slean. Your article is on file for examination in connection with other letters called for elsewhere in this number. We have not your P. O. address or we should have written you privately.

Flower Seeds for Ladies.—Mrs. Adaline Fletcher, Tarcross, Wis. The seeds you refer to will be offered in our list for Annual Distribution, to be published in December or January. We do not ask exchange seeds or pay. We have no seeds to sell, but distribute free to our subscribers all good seed we get hold of.

Western Money.

TO PERSONS REMITTING MONEY.

Since the failure of John Thompson, the Money Broker, we have been subject to all sorts of shaves on any Western money received—often 15 to 20 cents on the dollar, on bills perfectly good at home. Will our Western and Southern friends in remitting money for subscriptions, please send Eastern Bills or gold, or else 3-cent post-office stamps, when possible to obtain them. This will be of great value to us, while the present disturbance in the money market lasts. We will return a paper that will require no "discount" anywhere.

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What of the Chinese Sugar Cane ?

Every day's mail now brings us a number of reports—many times too numerous for publication. These are mostly encouraging as to the present growth and prospects of the crop, but we consider a decisive judgment upon its merits as yet premature, that is, as respects its profitable adaptation to sugar-making at the North. That it is valuable as a forage crop, in any place where Indian Corn will grow, may be considered a fixed fact. Abundant experiments will be made during this month, with sufficient accuracy to show how far north it will be available for sugar or syrup. In the Southern States, success has already attended the efforts of those who have tried it for making sweetening in the form of syrup. A planter in Texas sent 65 casks of Chinese Sugar-Cane Syrup to the New-Orleans market, where it commanded a high price, for its good quality. Similar reports come from other Southern localities.

Our own crop is far exceeding our expectations, which were not very hopeful, as a part was planted just before the long May rains, and a part after, or not till June. The last planted stands now nearly or quite 14 to 15 feet high over the field. It will probably be ready for grinding about Oct. 10, or before.

From the Northern Counties of Ohio, Indiana, Illinois and Iowa, and from some points in Michigan and Wisconsin, we also learn, by letters recently received, that the cane is making a prodigious growth, in many cases standing 14 to 17 or 18 feet in height. From the Northern Counties of New-England and New-York, and from Canada East, the reports are various. The past season has been unpropitious to say the least. The Spring was so wet and late that the average time of planting was, perhaps, not until about the first work in June. This, with a general frost the first week of October, would scarcely give time for the ripening of the seed. In some places the plants were actually killed by the very unusual frost of Sept. 9th. Two or three weeks earlier planting, as in ordinary years, would have materially improved the chance of the crop.

Leaving actual experiments this month to decide its value for the production of sweetening, we wish to gather some general and systematic information in regard to the growth of the Chinese Sugar Cane. To accomplish this, we invite short, definite answers to the following queries. Will our readers in the various sections please note down their answers, using the numbers instead of repeating the question:

1, Name of experimenter—2, State—3, County—4, Soil—5, Manure—6, Month, and about the day of planting—7, Month and about the day of heading out—8, Average height at time of heading out—9, Month, and about the day of ripening of the seed—10, Average height at time of ripening—11, Average diameter of ripening stalks and canes, say one foot from the ground.

These may be answered in this form: 1, Samuel Glover—2, N. Y.—3, St. Lawrence Co.—4, clay loam—5, barnyard manure—6, May 21—7, Sept. 16—8, 9 1/2 feet—9, Oct. 14—10, 12 feet—11, 1 1/4 inches.

If any question cannot be answered, put down the number and leave a blank. Against No. 9, write "killed by frost," with the date when this happened, if before the seeds were brown.

If, out of the many thousands who received seed from this office, a few hundred persons, in as many counties and in the different States and the Canadas, would write out and send us a series of answers such as we have indicated in italics above, we could make up and publish a table which would be of very general interest and value. Who will assist in this matter? Let us have both sides—the truth is what we care after.

NOTE.—As various grades and qualities of seed were sold last Spring, we only invite answers from those who received seeds from our office, all of which we tested, and know to have been of good quality.

A Cheap Wooden Sugar Mill.

Just as we go to press, our Ohio correspondent furnishes the following description of his mill: "I sawed off two 10-inch logs, 8 feet long. These I set 4 feet in the ground, and 4 feet apart, making them firm by stones filled in. Two feet from the ground I sawed a notch, half way through each log on the inside, and fitted in a plank 3 inches thick, and 13 inches wide. In this bottom piece I made two holes for the lower ends of the rollers, which were made of smooth hickory logs, trimmed round and smooth with a draw-shave. The lower end of each was fitted into the lower holes, with a gudgeon. Two feet from this, I cut a collar, or rather neck in the roller, the lower side of which corresponded with the upper end of the upright logs. I next fitted two pieces of plank, 6-inches wide, to the top of the posts, cutting out semi-circles on the inside of each, to fit into the necks of the rollers. These upper planks are spiked down upon the top ends of the logs, and hold the rollers in place. One of the rollers projects above the upper beam about 2 feet, and into

this is fitted a long lever, the outer end slanting down. To this I attach a horse, though a man can easily turn it. I am now pressing out the juice finely and boiling down the syrup in our maple sugar kettles. We save all the scum to make vinegar from. Will it not make good vinegar? [We should say yes.—Ed.] The rollers have spread apart a little at the top, but any canes that get through without being pressed dry, we pick up and put through again in some tighter place. We should have to put iron collars on the necks of the rollers if we had five acres to grind. The lever split out the mortice in the roller the first hour's working, but I got the blacksmith to put on two strong iron bands one above and the other below the entering of the lever, and it has since stood well. The greatest trouble is, that one of the rollers often stops, and the other slips on the cane, when we have to back the horse and put the cane in at a new place. Were I to make a new wooden mill, I would fit in wooden cogs like the old fashioned cider mill to make both turn together. But I shall next year have a larger crop, and get an iron mill."

Back Numbers of the Present Volume.

We are very frequently printing extra editions of this Volume, back to January, to supply new subscribers coming in from time to time, many of whom wish to go back to the beginning of the Volume. Let it be understood, then, that those subscribing in July, or at other periods, can at any time order the back numbers of this Volume.

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TER OF RURAL AFFAIRS FOR 1858—Containing Practical information for the Farmer and Horticulturist. Embellished with 130 Engravings, including Houses, Farms, Buildings, Implements, Domestic Animals, Fruits, Flowers, &c. By J. J. THOMAS. Published by LUTHER TUCKER & SON, Albany. Price, prepaid by mail, 25 cents. The trade supplied by **FOWLER & WELLS, No. 308 Broadway, New-York.**

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Good Plants for setting, of a second size, will be sold for \$100 per 1,000 Plants, or \$12 per 100 Plants.

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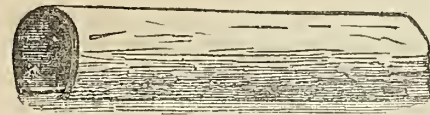
No Hotel or Private Family should be without one. Thousands have been sold within the few past months, and they have universally given satisfaction. We refer to

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- New-York Juvenile Asylum, 123 West 13th-st., New-York.
- Hamilton College Institute, White Plains, New-York.
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- Dr. R. T. Davies, 12 Clinton-street, Brooklyn.

And public and private houses in city and country too numerous to mention.

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The subscriber having purchased the Drain Tile Works of Archer & Co., offers for sale the following-sized Tile:

Horse Shoe Tile cut 14 inches long—	Sole Tile cut 14 inches long—
Pieces.	Pieces.
2 1/2 in. calibre.....	\$12 per 1,000
3 in. ".....	15
4 in. ".....	18
5 in. ".....	20
6 in. ".....	25
8 in. ".....	30

I warrant every Tile perfectly sound, and harder and better Tile than any before made in Albany. If not, the purchaser need not pay for them. I will also undertake Draining to any amount, and at any place, and furnish Tile for the same, and ask no more until the employer is perfectly satisfied with the result. I am also willing to render my services in laying out Drains free of charge, to any one who purchases Tile of me.

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THIS Pump, patented in England and America, is now greatly improved, and in successful operation in various parts of the world. It is warranted to work by hand all depths under 100 feet! and is made, pipe and all, of wrought and THE cast iron, will not get out of order, will not rust, will not freeze, will last an age, anybody can put it up, works by hand, water, wind or steam—throws and raises water, from 10 to 30 gallons per minute, has side-gearing and balance wheels, and costs, complete, for all depths under 100 feet, from \$20 to \$60. Drawings, with full particulars and prices, sent free of postage to all parts of the world, on application to

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ON LONG CREDITS, AND AT LOW RATES OF INTEREST.

THESE LANDS WERE GRANTED BY

the Government to aid the construction of this Road, and are among the richest and most fertile in the world. They extend from Northeast and Northwest, through the middle of the State, to the extreme South, and include every variety of climate and productions found between those parallels of latitude. The Northern portion is chiefly prairie, interspersed with fine groves, and in the Middle and Southern sections timber predominates, alternating with beautiful prairies and openings.

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The great fertility of these lands, which are a black rich mold from two to five feet deep, and gently rolling—their contiguity to this road, by which every facility is furnished for travel and transportation to the principal markets North, South, East, West, and the economy with which they can be cultivated, render them the most valuable investment that can be found, and present the most favorable opportunity for persons of industrious habits and small means to acquire a comfortable independence in a few years.

Chicago is now the greatest grain market in the world, and the facility and economy with which the products of these lands can be transported to that market, make them much more profitable at the prices asked than those more remote at Government rates, as the additional cost of transportation is a perpetual tax on the latter, which must be borne by the producer in the reduced price he receives for his grain, &c.

The Title is Perfect, and when the final payments are made, Deeds are executed by the Trustees appointed by the State, and in whom the title is vested to the purchasers, which convey to them absolute titles in Fee Simple, free and clear of every incumbrance, lien or mortgage.

The prices are from \$6 to \$30.

INTEREST ONLY 3 PER CENT.

20 per cent. deducted from the Credit price for Cash.

Those who purchase on long credit give notes payable in 2, 3, 4, 5 and 6 years after date, and are required to improve one-third annually for five years, so as to have one-half the land under cultivation at the end of that time.

Competent Surveyors will accompany those who wish to examine these lands, free of charge, and aid them in making selections.

The lands remaining unsold are as rich and valuable as those which have been disposed of.

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Will be sent to any one who will inclose fifty cents in Postage Stamps, and Books or Pamphlets, containing numerous instances of successful farming, sized by respectable and well-known farmers living in the neighborhood of the Railroad lands throughout the State; also the cost of fencing, price of cattle, expense of harvesting, threshing, etc., or any other information, will be cheerfully given on application, either personally or by letter, in English, French or German, addressed to

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Office in Illinois Central Railroad Depot, Chicago, Illinois.

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CIDER MILLS—Hickok's new and improved kind, the best in the United States.

HORSE POWERS of all kinds—Allen's Railroad, Emery's do., Taplin's rim or circular, Bogardus' iron, &c. &c.

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SAUSAGE CUTTERS and STUFFERS.

CARTS and WAGONS made to order.

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Plows of every description for Northern and Southern use, and for every kind of soil and crop.

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MOTT'S VEGETABLE BOILERS.

LITTLE GIANT CORN and COB CRUSHERS.

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DINGEE & CO., York, Pa., make a cheap portable Hay Press, combining every improvement suggested by 12 years' use. Write for Circular, giving dimensions, prices, &c.

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BAGS, TWINES, &c., suitable for Nursery purposes, for sale in lots to suit, by **D. W. MANWARING,** Importer,
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PURE BONE MANURE can be obtained

in large or small quantities of the manufacturers. **A. LISTER & CO.,**
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THE SUBSCRIBER CONTINUES TO

ship to order his Celebrated Premium Chester White PIGS, in pairs not akin, at moderate charges. Address **THOS. WOOD,** Penningtonville, Chester Co., Pa.

POULTRY FOR SALE.

Bremen Geese, African do., wild do.
Wild Turkeys, large breed of common Turkeys.
Aylesbury Ducks, black do., Cayuga black do., Chinese do., Knackers do., Muscovy do.
White and gray Dorkings, black Spanish, Leghorns, black Poland, white do., golden and silver Pheasant; black, buff, red and white Dominiques, Shanghaes, black Spanish Game, Sumatra do., Pile do.; black Banians, buff do.; white Sebright do.; white Guineas. All pure breed. **S. SMITH,**
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CHINESE POTATO—(DIOSCOREA BATA-

TAS.)—In consequence of our great crop, we will now supply stock for farmers in parcels of 1,000 to 10,000 tubers at very low rates for cash or approved notes, with directions for culture. The triumphant reports from Europe and from the American Institute, and the universal success throughout our country have now guaranteed its general adoption as far more than a substitute for every other kind of potato.
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Having been informed by our friends in some sections of the country, of the great injury done to their Hair, by the use of what purported to be the genuine LYON'S KATHAIRON, but proved to be worthless counterfeits and imitations; we caution the public against such imposition. Avoid all dealers who attempt to sell the spurious articles, for they are not to be depended upon in any matter. The great excellence and universal popularity of the genuine LYON'S KATHAIRON is attested by its immense sale—nearly 1,000,000 bottles per year; all pronounce it the most excellent preparation for the Hair ever made. Sold by all respectable dealers, everywhere for 25 cents per bottle.

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Proprietors and Perfumers,
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Agricultural Exhibitions for 1857.

The Agricultural Exhibitions, Shows and Fairs, together with the Agricultural Horse-Races, are in active operation. Most of the legitimate Exhibitions are quite successful; we should be sorry to say as much of the horse-races, falsely called Agricultural Fairs. In addition to full lists of the time and place of several hundred Exhibitions, given on pages 188 and 216, (August and September numbers,) we append the following list of County Exhibitions not previously published:

- CONNECTICUT.—Hartford County, at Hartford, Oct. 6 to 9, inclusive.
PENNSYLVANIA.—Montgomery, at Springtown, Oct. 7 to 8; Berks, at Reading, Oct. 7 to 10; McKean, at Smithport, Oct. 14 to 16; Huntingdon, at Huntingdon, Oct. 15 to 16; Northumberland, at Milton, Oct. 15 to 16.
DELAWARE.—New Castle, at Wilmington, Oct. 7 and 8.
OHIO.—Highland, at Hillsboro, Oct. 6 to 8; Henry, at Napoleon, Oct. 7 and 8; Stark, at Canton, Oct. 7 to 9; Sandusky, at Fremont, Oct. 15 and 16, Crawford, at Bucyrus, Oct. 15 and 16.
INDIANA.—Washtenaw, at Ann Arbor, Oct. 7 to 9. Washtenaw and Wayne Union, at Ypsilanti, Oct. 7 to 9.
ILLINOIS.—Beureau, at Princeton, Oct. 2 and 3. Christian, at Taylorsville, Oct. 21 to 23.
IOWA.—Hardin, at Eldora, Oct. 23.

MARKET REVIEW, WEATHER NOTES, &c.

AMERICAN AGRICULTURIST OFFICE, NEW-YORK, Sept. 25, 1857.

The Money Market troubles, the numerous failures reported, the free receipts of produce, and the manifest eagerness of most dealers to realize, have seriously injured the Produce Markets during the month, having induced much caution in purchasing, with great depression and irregularity in prices. Breadstuffs were freely offered at decidedly lower rates, which had the effect of eliciting a better inquiring hotel for home use and exports; and but for the stringency in financial affairs, a very vigorous business would have been the result. Recently the pressure for ready means among our produce dealers is not quite so urgent, and as the demand is generally good, the market is, perhaps only temporarily regaining much of its lost firmness and buoyancy. Cotton has been very dull at uniform prices, purchasers buying only such lots as they immediately required. It appears that the crop of the year ending the 1st inst., was 2,939,519 bales, against 3,527,845 last year, and 2,847,339 the year before. The total foreign export is 4,252,657 bales, against 2,951,606 last year—a decrease of 701,949 bales. Of the crop 45,314 bales were Sea Islands, against 44,512 last year, and 40,841 the year before. The consumption of the country North of Virginia is shown to be 702,138 bales, in that state 18,541, and in the other Southern and Western states 119,246—making the entire consumption of the country to Sept. 1, 1857, say 840,000 bales, against 768,000 last year. The first bale of the new crop marketed, this year, reached Charleston, on August 20th, and the subsequent week, several early specimens were received in other Southern ports. The anticipation is that the crop will be a very good one. Provisions have been in moderate request, closing heavily and languidly at our revised quotations below. Groceries were rather lightly dealt in at drooping prices. Some new crops Louisiana Sugar reached New-Orleans on the 1st inst.; and, on the same day, 65 barrels new Molasses, from Chinese Sugar Cane, were received in the same markets. Hay was in fair demand, but at reduced rates, closing with considerable steadiness and uniformity in prices. The supply is ample of new, but is very limited of old. The last sale of salt hay (which is out of market) was effected at 62c. per 100 lbs. Hops are plentier and cheaper. On the 31st ult. the first cut this season, of the new crop arrived here, from Vermont. It was offered at 25 cents per lb., but subsequently contracts were reported, for new hops, for delivery, to brewers during October, February and March, at 14c. per lb. At present new hops are obtainable here at 10c. per lb., but are inactive. Hemp, Rice, Tobacco and Wool appeared very quiet at prices, generally more in favor of buyers, than of sellers. These have suffered much from the stringency in the Money Market.

Table with columns for Aug 25, Sept. 23, and prices for various commodities like Flour, Corn, Wheat, etc.

Table listing various agricultural products and their prices, including Hogs, Lard, Butter, Cheese, Eggs, etc.

The subjoined tabular statement presents summaries of the total receipts of the leading kinds of Breadstuffs, by railroad, river and coastwise, and of the total sales, here for twenty-five business days, ending to-day.

Table showing Receipts and Sales for Wheat Flour, Wheat, Corn, Rye, Barley, and Oats.

The following is a comparative statement of the annual exports of Breadstuffs, from our Atlantic ports, each year ending Sept. 1:

Table comparing exports of Flour, C. Meal, Wheat, and Corn for various years from 1856 to 1860.

Table showing exports to the Continent for Flour, Wheat, and Corn.

LIVE STOCK MARKETS.—The receipts of Beef Cattle for four weeks, ending Sept. 16, were 14,404, against 13,000 for four weeks preceding it. Receipts for the week ending August 26, 2,703; Sept. 2, 4,040; Sept. 9, 3,334; Sept. 16, 4,327. Prices varied as follows: Aug. 26, 1c. higher, Sept. 2, 1 1/2c. lower; Sept. 9, 1c. higher; Sept. 16, 1c. lower; making a decline of 1c. for the month. Wednesday, Sept. 16, prices ranged: Premium Cattle, 11 1/2c. @ 12c.; First quality, 11c. @ 11 1/2c. Medium quality, 9 1/2c. @ 10c. Poor quality, 8 1/2c. @ 9c. Poorest quality, 7 1/2c. @ 8 1/2c.; General selling prices, 9c. @ 11c.; Average of all sales, 9 1/2c. @ 9 1/2c.

Receipts of Sheep and Lambs for the same period have been 53,815, or about 7,000 more than last month. Prices have declined a little during the month, ranging now at 4c. @ 5c. live weight for good sheep and 4 1/2c. @ 6c. for lambs.

Hogs are now arriving pretty freely. The receipts at the principal yards of this city have been 7,800 during the past four weeks. Prices now range 7 1/2c. @ 7 3/4c. live weight for fat corn fed hogs, and 6 1/2c. @ 7 1/4c. for distillery hogs.

THE WEATHER during the present month, or since our last notes closed, has been variable, commencing with heavy rains, succeeded by warm weather with no rain for a fortnight, during the latter part of which time there were frosts on low grounds. Next we have a succession of rains and heavy blows doing extensive damage to the shipping upon the Southern coast, and for a few days past it has been cool enough for fires in-doors. The Equinoctial storm apparently commenced with us on the 19th inst.

Our condensed Weather Notes read; August 26, and 27, clear and warm with heavy rain on the night of the 27th; 28, hard rain A. M., clear and warm P. M., warm weather continued until Sept. 7, at which time the ground was dry and roads quite dusty; Sept. 8 and 9, fine days with light frosts at night on low grounds at the North, some corn fields in a green state, were injured, 10th clear and warm; 11 clear at this place but the beginning of a heavy gale on the Southern coast in which the Central America foundered on the following day; 12 cloudy with light rain at night; 13 slight rain, cloudy A. M., rain P. M.; 15 and 16 clear, fine and warm; 17 warm rain, 18 clear and warm; 19 cold rain storm; 20 cloudy A. M. clear P. M., cold continues; 21 and 22 cool but pleasant; heavy cold rain on night of 22; 23 clear & warm.

Contents for October, 1857.

Table listing various articles and their page numbers, including Apiary in October, Bee Hive, Blackberries, Bones, Boys and Girls' Page, Bulbous Flowers, etc.

American Agriculturist.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; IN-DOOR and OUT DOOR WORK around the DWELLING; care of DOMESTIC ANIMALS &c. &c.

The matter of each number will be prepared with reference to the month in which it is dated, and will be promptly and regularly mailed at least one day before the beginning of the month.

A full CALENDAR OF OPERATIONS for the season is given every month.

Over FIVE HUNDRED PLAIN, PRACTICAL, instructive articles are given every year.

The Editors and Contributors are all PRACTICAL WORKING MEN.

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In addition to the above rates: Postage to Canada 12 cents; to Europe 24 cents; Delivered in New-York City 12 cents.

Postage anywhere in the United States and Territories must be paid by the subscriber, and is only six cents a year, if paid quarterly in advance, at the office where received.

Subscriptions can begin Jan. 1st, July 1st, or at other dates, if especially desired. The paper is considered paid for wherever it is sent and will be promptly discontinued when the time which it is ordered expires.

All business and other communications should be addressed to the Editor and Proprietor, ORANGE JUDD, No. 191 Water-st., New York.

AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture.

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ORANGE JUDD, A. M., }
EDITOR AND PROPRIETOR.

ESTABLISHED IN 1842.

{ \$1.00 PER ANNUM, IN ADVANCE.
{ SINGLE NUMBERS 10 CENTS.

VOL. XVI.—No. 11]

NEW-YORK, NOVEMBER, 1857.

[NEW SERIES—No. 130.

Business Office at No. 189 Water-st.
For Contents, Terms, &c. see page 272.
Notes to Correspondents, pages 267.
For Advertisements, see pages 270-1.

The entrance to the office of the American Agriculturist is moved one door south, that is from No. 191 to No. 189 Water-st., (between Fulton and John streets—nearly opposite the United States Hotel). We are here fitting up a new Editorial Room, where we shall be happy to meet any of our subscribers and friends visiting the City. Letters to be addressed, hereafter, to 189 Water street.

Please refer to the "Baker's Dozen" Offer on page 269.

WORK FOR THE MONTH.

"But here the Autumn melancholy dwells,
And sighs her beautiful spells
Amongst the sunless shadows of the plain.
Alone, alone,
Upon a mossy stone
She sits and reckons up the dead and gone,
With the last leaves for a love rosary,
Whilst all the withered world looks drearily,
Like a dim picture of the drowned past,
In the hushed mind's mysterious far away,
Doubtful what ghostly thing will steal the last
Into that distance, gray upon the gray."

Hood's picture of the Autumn is, in the main, truthful, though the poets all have a way of overdoing things, throwing a beautiful mist about all things earthly, and making them look more shadowy and grand than they appear in the sunlight. The fact is, that the changes of the dying year come on so gradually, that the mind of the healthful observer, receives no rude shock, and never sees the sepulchral form of old Autumn sitting on a mossy stone, and reckoning up her losses with sombre visage. All that melancholy business is left to poets, languishing maidens, and other idle people. There is indeed, a change, but we hardly note it from day to day.

The leaves upon the maple and ash in the forest begin to bronze, even before the frost touches them, so that the glorious drapery of Summer loses some of its freshness before Autumn comes. The song of birds is broken, and many a voice is missing from the forest choir, before the full Autumn song of the insects fills our ears. The first frost is upon the lowlands and in the valleys, and our eyes grow familiar with the russet corn leaves, and the withered flowers, long before the verdure upon the plains and hills begins to fail. The golden rod and asters, purple and white, maintain their freshness and bloom, even after the frosts. The morning air is,

indeed, chill, but the middle of the day has still a Summer glow, so that we hardly realize the Summer has gone. The purple and yellow hues steal softly over the forest landscape, growing more brilliant day by day, but so silently that we wonder when the change was made, even in the greatest blazonry of the gorgeous scene. We miss the songs and flowers of Summer, but are hardly conscious that Autumn is at all sombre or womanish. The season rather seems to us as a hale, well-conditioned fellow, a little old indeed, but hearty, and dispensing favors with a freedom and fullness that indicates a joyous heart and sound health.

The farmer has certainly no occasion to brood over the dispensations that come to him in November. His fowls have brooded to so good purpose that he will find it up hill business to wear a long face if he tries. Look into the poultry yard. What a crowing of young cockerels, flush with juvenile courtesies to their feathered mates! What a strutting and clucking of turkeys, jubilant and unsuspecting of the fate that awaits them at the approaching Thanksgiving, or the remoter Christmas! What cackling of geese and quacking of ducks, all sleek and beautiful, full fledged for Winter. The death of the insects, if he deplore them, has been a large gain to his feathered tribes. He cannot feel very uncomfortable at the loss of their songs. Look into his granaries. What bins of wheat and cribs of corn are stored away, like piles of gold. Look into his cellar. What heaps of roots, an ample supply for man and beast, for the long Winter months. Surely, it is not for this man to see in Autumn a moping old lady, shivering upon the brink of the grave. Such visions may do for Wall-street, and we should not wonder if many of the dreamers there, in these times of panic and falling of stocks, were not turning to the farm with longing eyes, and bewailing the day they quit the plow. To many of them

"The melancholy days have come—the saddest of the year."

But the farmer has something to fall back upon besides bank stock. He has no notes to meet at 3 o'clock P. M., and he has no uncomfortable apprehension of moving out of a palace on account of his failure in business. His bank of earth is still good, and his shares of plow are still above par. They have brought in a glorious dividend this year, when so many other shares have proved failures. He has a stock of bread on hand for his family for a whole year, beeves in the stall, and fat porkers in the sty. Come

what will, the city must buy of him. His is a legitimate trade, that the world cannot get along without. The farmers' calling cannot fail to rise in the world's esteem in these times of revulsion and ruin. If the crash shall only open the eyes of men, and convince them that we have too many traffickers, and too few producers,—if it shall lead multitudes to return to the plow, and to cultivate the millions of untilled acres that lie waste upon our sea-board, the panic will be an infinite gain to the country.

Farmers should be the last class to hang or drown themselves this month, while so many in the city are looking back to their condition, with a perfect longing for their leeks and onions. If they have ever had thoughts of quitting the farm, we advise them to take counsel of a city merchant, and revise their plans. They should settle down into the happy conviction that they have the noblest and most independent calling upon earth, the greatest occasion to thank God for their present lot, and to take courage for the future.

PERMANENT IMPROVEMENTS.

They should turn over a new leaf this Fall, and begin to make their plans for a life-lease of the acres they now occupy. It is one of the greatest drawbacks to our husbandry, that nobody seems to be settled. Every man upon the farm, almost, has his ideal of a farmer's home away out West. He is not seeking to realise it in his present position. He lives, every year, as if he might sell out and move in the Spring. He does not repair the house or barn, he does not set out an orchard, he does not put a new wall or fence around the garden. He makes no investment that will not bring in its return the present season. This course is ruinous to the land, and to the pecuniary interests of its proprietor.

Farmers ought to work their fields, and build barns to save their manures, as if they expected to occupy them for life. They are quite as certain to get a fair price for their improvements as for the old acres unimproved. A purchaser will be influenced in his views of the value of the property by its present productiveness. A meadow yielding three tons to the acre is worth more than three times as much as one yielding but one ton to the acre. It will not cost three times the present value of the land to make it three times as productive. A farm that furnishes the material to make five hundred loads of manure, will sell much better than one where but one hundred is made. The air of thrift that hangs about an improving

farm makes it sell well. It raises the expectations of the purchaser, as he flatters himself that he can manage quite as well as the present occupant.

REMODELING THE OLD BARN,

or building a new one, will then certainly be good policy this Fall, if you have not already attended to it. Consider how many hundreds of loads of manure, what tons of ammonia have been wasted in the old establishment, and put a stop to this large leak in your ship. It is an old affair, but the timbers are yet sound, and by moving it a few rods you may put under it a cellar, and provide much better accommodations for your stock. Enlarge it if necessary, so that every animal may have shelter for the Winter. It is now simply a planked building, letting in all the winds at the cracks. It must be newly covered and made tight, so that you can command the circulation of the air with a ventilator. Remember that wintering cattle at the stack-yard is as wasteful as it is barbarous, costing at least a fourth more of fodder to carry an animal through. Let this reproach of our husbandry be wiped out henceforth.

If the old barn is rotten in its timbers, pull it down, and build anew. Consult some of your neighbors who have a good barn, for a plan, and make such additions as your location and the style of your farming suggests.

ONE BARN TO A FARM.

Some farmers err in having too many barns scattered about their premises. Some of them are a half or three-quarters of a mile from the house, and in the Winter, they have to take a journey twice, daily at least, in the cold to fodder the cattle. This is a great waste of labor, and the cattle usually suffer from neglect unless the owner sees to the feeding in person. One barn indeed involves a good deal of carting of hay, and of manure, but this is a small evil in comparison with having the cattle at a distance in the Winter. Stock, in order to do their best, should not only be housed in Winter, but should be fed thrice daily, and at regular hours. Much of the fodder is wasted if they are fed at longer intervals. If fed at irregular hours they suffer from hunger, and become impatient. To lay on flesh or fat kindly, they should be kept quiet in the intervals of foddering. If these ends are to be sought, all the stock should have room in the home barn, and should be under the eye of the owner every day.

THE CARTING OF MANURE

may be saved, in part, by making a portion of your compost upon the fields where you design to use it. The meadow, for instance, that you design for corn next season, may be furnished with muck heaps for the making of compost this Fall. The manure may be drawn to these heaps and mixed now, or early in April. If covered immediately with the muck and protected from washing, the manure will lose little of its value, and the work in Spring will be hastened.

THE PIG STY

should now have your attention every day. Feed regularly, and keep your porkers well supplied with muck and litter. A constant

and full supply of food is essential to making cheap pork. Is your piggery dry and warm, and luxurious in its clean rye straw?

A MULCH FOR THE STRAWBERRY BED.

We have found the hardiest varieties of this fruit to do better with a Winter covering. It should not be too thick. Leaves mat down so closely that under the snow they prevent all ventilation, and the vines are killed. Old bog hay, or straw, will answer a good purpose. Dry sea-weed is also an excellent covering. The boughs of evergreens, where they are convenient, afford a sufficient protection.

THE RASPBERRY CANES

are best protected by a covering of earth. This is so little trouble that it is not a strong objection to a good variety that is only half hardy or tender. He must be a lazy cultivator who grudges the trouble of putting a few inches of dirt upon his raspberry canes. The stools should be thinned out to about four canes. The smaller shoots may be taken up to make new plantations of, or to sell, or give away to your neighbors.

THAT ORCHARD

should certainly be planted this month. It is too bad that you had not the five hundred barrels of apples to sell this Fall, when they are in such demand. But it is never too late to learn, and you should learn wisdom now, and be ready for the next year of scarcity. They will always pay whenever you can get good fruit, and some years they will pay better than anything else upon the farm. Notice the often-repeated directions for tree-planting in the *Agriculturist*, and put out good sized, thrifty, well-rooted apple trees in your orchard.

THE ROOT HARVEST

should not be delayed much longer. Beets should go in immediately, and the mangel wurtzels, if you mean to keep them for Spring feeding. Carrots and ruta bagas should be harvested by the middle of the month.

SAVE THE SOOT.

This, though generally thrown into the street and wasted is one of the best manures. It is extensively used in England, and when only 15 or 20 bushels are applied to the acre, it induces the most luxuriant crops of wheat, and other grains. It contains, in small compass, almost all the ingredients of the coal or wood used for fuel. It also contains several salts of ammonia, magnesia, lime and muriatic acid. Its components are the natural food or stimulants of plants, and it can be used to great advantage as a concentrated fertilizer, to stimulate germinating seeds in the drill. It is not only sown broad-cast with the grain, but it is applied to the root crops with the best results. Potatoes and carrots, especially, are benefitted by it. Six quarts of soot to a hoghead of water make an excellent liquid manure for the garden. It can be applied with safety to all garden crops, and will pay well for saving. In putting the stoves, furnaces and fire-places in order for Winter, bear it in mind, that soot is valuable, and will be wanted for Spring use. One, two, three or more barrels can be saved easily in most families, especially where wood is burned

LEAF MANURE.—The best manure, says Liebig,

for almost every plant is the decomposed leaves and substances of its own species; hence when the small onions or scullions, as they are called, are left upon the bed, and turned under the soil, they greatly benefit the succeeding crop. An annual dressing of salt in moderate quantities, sown broad-cast over the whole garden early in Spring, is beneficial, destroying the germs of insects and acting on the foliage of plants, retaining moisture, &c. Ten bushels to the acre will answer the purpose.

CALENDAR OF OPERATIONS.

NOVEMBER, 1857.

[We note down a summary of various operations, many of them very common ones, it is true, but a simple catalogue like this will often suggest a piece of work that would otherwise be forgotten. The Calendar is adapted to the latitudes of 39° to 45°. A little allowance must be made for each degree of latitude—earlier north—later south. This table will be made out anew every month, and adapted to the season of each year.

EXPLANATIONS.—The letters, f. m. l., refer to first, middle, and last of the month.

Doubling the letters thus: ff., mm., or ll., gives emphasis to the particular period indicated.]

FARM.

Now that the crops are chiefly gathered, and the Winter cereals sown, it is time to cast about and see what permanent improvements can be made upon the farm, what can be done to forward work another Spring, and more than all, see whether anything is lacking to make stock comfortable during the approaching Winter. Look well to the

Barns and see if sufficient room is provided to shelter all cattle and horses at night, and during storms, with shed or hovel room for the sheep. Have racks so arranged that no fodder will be wasted either in the yards or stalls. Unless all the stock can be accommodated by buildings now up, construct a rude shed as described under this head last month.

Beoves—Hasten the fattening of those intended for the butcher. Do not wait until a large portion of the food is needed to keep up animal heat. With the corn or meal give pumpkins, beets, carrots and turnips.

Buildings of all kinds that were not closely inspected last month should be looked to now, and made storm and cold proof. Painting may very properly be done at this season.

Cabbages—Harvest the late crop before the ground freezes the roots in, and protect as recommended in the October number. See page 262.

Carrots—Dig ff. any remaining in the ground.

Cattle—As grazing food is fast failing, cattle look to the barns for a partial supply of what they must soon depend upon entirely. Remember that a long Winter is before them and only give them what they eat up entire, even though you may seem to have abundance. Use all decaying vegetables and their tops before they waste upon the ground. Milch cows should have a goodly supply of green food including pumpkins, turnips, beets, &c., to keep up the supply of milk. Every animal should come to the barn at the opening of Winter in good flesh. See that all are stabled at night and during cold and stormy weather.

Cellars are now receiving important stores. Protect them from frost by banking up, and secure the windows and door way, so that cold can not enter; but provide for suitable ventilation.

Cisterns—Unless already provided, lose no time in constructing for both house and barn. They are easily made and save abundance of labor and manure, to say nothing of broken bones on icy paths leading to the spring, pond or brook.

Draining is always in season, when the ground is not frozen or wet, until all swales, swamps, or low grounds are made the most productive portions of the farm. Attentively peruse the chapters on this topic, as they appear from month to month.

Fowls—Warm inclosures, sand or gravel, cooked vegetables, meat, grain and water are essentials for poultry during the Winter season, to keep them in a laying condition.

Grain—Thresh any omitted last month, and carefully save the straw for feed and bedding.

Hay and Straw—Cut as much of these as possible. When wet and mixed with meal or bran cattle eat the whole, where they would waste a part without being cut. A straw cutter should be one of the indispensables of the farm.

Hogs—Bear in mind the advice of last month and complete fattening early. Cook the food in all cases where practicable.

Ice Houses—Build f. m.; directions for a cheap structure are given on page 251.

Leaves—Collect a good supply from the orchard and forests. They make excellent bedding for cattle, horses and hogs, besides being good manure. You can not get too many of them.

Manure—See that sufficient materials are at hand for making all the manure possible, a large amount of

Muck should be got out and stored under cover if possible, accessible to the stables and hog pens for free use during Fall, Winter and Spring.

Plow stiff heavy lands before the ground freezes, and leave them to be acted upon by the Winter frosts.

Roots—Complete harvesting *f. m.* before hard freezing. Gradually cover the root pits with more earth, and when the weather demands, close the ventilators at the top. See article on page 203 (Sept. No.) relative to their construction.

Sheep should now receive some extra feed although they still grub upon the hills and pastures. They go through the Winter much easier and with far less risk, when beginning in good flesh. The buck may run with them *m. l.* if early lambs are wanted. At the North next month will be early enough.

Stack Yards—Instead of making them *cattle yards*, save time, labor, and your reputation for humanity by carting the contents to the barn and feed under cover.

Stone Fences may be built as long as the ground remains open.

Tools—Put away those not in use under cover, after coating iron and steel surfaces with the mixture recommended on page 228 of the October number. It is well to repair any needling it now, so that no delay will be necessary when they are wanted at a busy season, or put such where they will be sure to receive attention during Winter.

Turnips—Harvest *Ruta Bagas m. l.* or when the leaves begin to wilt.

Water Pipes—Give an extra covering *ll.* where there is danger of freezing.

Winter Grain—Keep stock of all kinds from eating it off or trampling it down this month. A good coat upon the ground, as a mulch for protection during Winter, is valuable.

Wood—Look to the forests *m. l.* and collect all the "down stuff" at the North and pile it easy of access when sledging comes on. It is much easier to collect it now than after deep snows have fallen. As a general rule the first snows of Winter are best to draw wood to the house.

ORCHARD AND NURSERY.

The early part of this month is a favorable season for setting out an orchard. Trees well set now will be ready in Spring to start at once into rapid growth. In the nursery the busy season of selling and replanting continues.

Apple Trees—Plant *ff. m.* on dry, well prepared soil. Cherries—Plant as apple trees. If in exposed situations, it is better to defer planting till Spring.

Frozen Trees—Read directions for on another page. Grounds for Spring planting, both to standard and nursery stock.—Prepare *ff. m.* instead of leaving till the busy season of Spring.

Manure grounds for Spring planting now, in preference to leaving them till they are planted.

Mice among Trees—Read under this head last month and act accordingly.

Nursery Knws—Turn a furrow with the plow towards the row upon either side and leave in this manner during the Winter, especially on wet ground. The dead furrows between the rows will serve as drains.

Orchards of old trees should receive due attention to prolong their usefulness as much as may be, or till the younger trees come into bearing. Scrape off the moss and rough bark, dig about and manure the roots, pruning the tops at a proper season and you give them a new lease upon life for which they will amply repay you.

Pack thoroughly those trees which are to be sent to a distance, using moss or moist straw for the roots, strapping and binding the tops with twine.

Pear Trees—Set out *ff. m.* on dry soil.

Pruning may be done now but it is not the best season. Quinces—Plant as Pears.

Seeds of Apples, Pears, Quinces, Plums, Cherries, Peaches, &c.—If not planted last month as there directed it can be done *ff. m.*

Tender Trees and Shrubs will require some protection by the latter part of the month. Tall varieties may be bound up with straw or mats, and low growing trees or shrubs covered with boxes or barrels having holes in the top for ventilation.

Transplanting generally may be done in the early part of this month.

KITCHEN AND FRUIT GARDEN.

During the fore part of this month any crops not harvested should be secured, and everything done that may be to favorably planting in the Spring. Look well to the

Winter protection of whatever requires covering, beginning with the

Asparagus Bed, which may now receive a coating of coarse manure and litter from the horse-stable, both to prevent frequent freezing and thawing, and to serve as a dressing to the plants.

Beets should have been harvested last month. If not already done, secure *ff.* storing from frost.

Blackberries may be planted as long as the ground is open, but the earlier now the better.

Cabbages and Cauliflowers—Harvest the remaining crop *f. m.* and store for Winter use. Read article in present number, on this point. Those set in frames last month should receive air each day, if the weather is at all suitable, raising the upper edge of the sash. Cover with mats or straw before heavy freezing.

Carrots—Dig and store *ff. m.* any remaining in the ground.

Celery—Harvest the remaining crop *f. m.* and protect as directed elsewhere in the present number.

Cold Frames—Attend to closely, giving air whenever suitable. If the weather is very cold towards the latter part of the month, do not remove the sash or other covering. In addition, spread over rugs, mats, or straw. It is not expected that frost will be entirely excluded, but avoid any sudden changes, and when the weather moderates allow the frost to come out of the plants before removing the covering.

Compost and Manures for Spring use—Prepare a good supply as opportunity offers.

Corn Salad—Thin, keep free from weeds and cover lightly with straw *m. l.*

Currants and Gooseberries—Plant both *ff. m.* if not already done. Cuttings may be made and either kept for Spring planting or put in at once.

Drain stiff heavy soils, to facilitate early working in Spring. They may be planted a week earlier, if thoroughly drained.

Fruit Trees—These may be planted *ff. m.* as referred to more fully under "Orchard and Nursery."

Garlic—Plant *ff. m.* in preference to leaving it till Spring.

Grapes—Lay tender varieties upon the ground, and unless in some measure screened by buildings or fences, we prefer taking even the Isabella and Catawba from the trellis during Winter.

Grape Vines—Read descriptive chapter on.

Leaves of Trees—Collect a good supply for composting and for hot beds in the Spring. They make an excellent manure for the kitchen garden.

Lettuce—Expose that growing in frames to as much air as can be done with prudence, otherwise they grow with slender stalks and do not head well.

Mice—Allow no brush, weeds or rubbish to afford harbors for these. Set traps or introduce poison into the cold frames if they make an entrance there.

Mushroom Beds—Make *ff.* and attend to former ones. Read the article on another page.

Parsneps—Harvest any time before the ground freezes, enough to last till Spring, and put in a barrel in the cellar, sifting in sand or dry earth until they are covered.

Potatoes should all be dug *ff.* unless harvested last month. Keep from air as much as possible.

Raspberries—Transplant and set out new plantations *ff. m.* Lay down and cover tender varieties before the ground freezes, cutting out any old canes and shortening in long shoots at the same time.

Rhubarb—Plant roots *ff. m.* instead of waiting till Spring.

Salsify—Dig what is wanted before Spring and store as parsneps.

Spinach—Weed and thin previous to covering with straw for the Winter. See that no water will stand on the ground.

Squashes—Remove to a cool dry cellar before they freeze. Handle with care, and if properly managed they will keep till January or February.

Strawberries—Cover beds with straw, coarse manure or leaves *m. l.* Remove weeds and thin out now in preference to leaving a *mat* upon the ground till Spring.

Tonls—Repair any needling it, and put away in their proper places in the tool house, those which are no longer needed this season.

Turnips—Harvest the remaining crop *m. l.* being governed by the season. Look to pits as the weather becomes severe.

FLOWER GARDEN AND LAWN.

The principal labors of the present season in this department will be taking in such roots, shrubs and flowers as will not withstand the frosts of Winter, and affording protection to some of the more tender ones which remain out; arranging and planting hardy trees and shrubbery both on new and old grounds; dressing the lawn and putting everything in neat order for Winter. Decaying flower stalks and rubbish of all kinds should be removed

both to present a neat appearance and avoid a harbor for mice.

Annuals sown last month—Protect by a slight covering of leaves or straw, or erect a cold frame over them.

Bulbs were probably planted last month in accordance with directions then given. If any remain out of ground, plant them *ff.*

Chrysanthemums are still in bloom in many sections. Keep them tied to stakes, and mark those colors you wish to propagate. During the latter part of the month they may be divided and reset.

Dahlias and Gladiolas—If these were not all taken up last month, lift them *ff.* and having attached wooden labels with the names and habits of the varieties to each, put in boxes of earth and set in a cool dry situation but out of the reach of frost.

Daisies—Cover *ff. m.* with leaves or a frame.

Frames and Pits—Place the remaining plants requiring protection in these *ff.* and secure them from freezing by extra covering as severe weather comes on.

Hedges—Plant buckthorn, althea, privet, &c. *ff. m.*

Lawns—A covering of straw or sea weed will cause these to start fresher in the Spring, especially if they are new. Guano or bone dust may be washed in by the Fall rains.

Pæonies and other perennial herbaceous plants may very properly be divided and set out *ff. m.*

Roses—Low growing tender varieties may be laid down and covered with earth *m. l.*

Shrubs—Plant *ff. m.* those varieties alluded to last month, unless they were pointed to at that time.

Stakes and Dahlia Poles—Collect and lay away under cover for future use.

Tigridias and Tuberoses—Lift and dry *ff.* and store away from frost.

Trees—Plant shade trees *ff. m.* about the yards and lawns.

GREEN AND HOT HOUSES.

These are now supposed to be full, and fire heat already in use for collections of tender and tropical plants. It is important that they suffer no check from a cool atmosphere which is sometimes allowed between the waning heat of an Autumnal sun, and the starting of Winter fires. It is also presumed that water pipes are used to generate heat, as these, after numerous and oft repeated trials, are almost universally decided to be the best.

Air all of the houses as much as practicable. Half hardy plants recently carried to the green house, especially need abundance of air while becoming accustomed to a change of situation.

Annuals—Commence potting those annuals which were sown last month, using pots large enough for them to bloom in.

Borders—Fork over *ff. m.* working in plenty manure.

Bulbs—Place a quantity in glasses and put them in the green house *ff.* A few of these may be brought to the hot house *m. l.* at intervals of a few weeks, to keep up a succession of bloom during the Winter.

Camellias—Syringe freely and wash any dust from the leaves.

Cisterns or Tanks—These should be in the rooms, and kept filled so that the temperature of the water when applied to the plants may be the same as the air of the room. Evaporation from these open cisterns assists in maintaining a humid atmosphere.

Fires—Keep these as even as may be, both by day and night, in the heated apartments. Avoid starting them among the more hardy plants of the green house unless frost is likely to enter. There is more danger from excess of heat when plants are first brought in than after they have become accustomed to their situation.

Insects—Keep down with syringe and tobacco fumes. It is far better and much easier to keep them in check than to exterminate them after they have got a strong foothold.

Leaves—Pick off all decaying ones, as they breed vermin and emit an odor offensive to growing plants.

Pots and Tubs—Examine and loosen the earth, where necessary, removing any moss growing upon the surface. Keep free from weeds.

Roses—Tender varieties taken to the border in the Spring, should be returned to the house *ff.*

Shutters—Put these in the hot house each night when there is appearance of heavy frost, removing them after the sun is up in the morning.

Temperature—The different houses and rooms must be regulated in point of temperature by the collections they contain. With hardy vines and shrubs requiring only the partial protection of a green house, the temperature may range from 40 to 50 degrees, while the different forcing houses should range from 55 to 70 degrees, and even 80 degrees will not be too much for the tropical house.

Water moderately, excepting in the most heated rooms. Bulbs especially, need very little water at this season. Succulents need be watered only once or twice a week. The fore part of the day is now the best time to apply it.

WHAT OUR AGRICULTURAL JOURNALS ARE DOING.

It is the weakness of all callings, perhaps, to magnify their office. In no case is there more occasion for "making a fair show in the flesh" than in that of the agricultural press. There has been in the last ten years an unprecedented improvement in all our farming interests. Even while the Eastern States have been depleted of their wealth and population by emigration, and thousands of men and millions of money have gone West, there has been a steady increase of population, and a larger addition to the annual productiveness of our farms, than was ever known at any former period. This is seen and understood in many small districts by men who are making improvements in husbandry themselves. This increase in the aggregate for the Eastern States must be enormous.

In the model State of Massachusetts, they take more pains to ascertain the statistics of their industry than elsewhere, and from their last returns for 1855, we are able to form some correct idea of the progress husbandry is now making all through the older States. The Governor, in his late message, compares the returns of 1855 with those of 1845. He finds the annual value of all the industrial products of the State have been more than doubled in this decade. The increase in the department of agriculture is still more marked. The value of these products in 1845 was \$26,234,453, and in 1855, \$62,853,488. The increase in these and other industrial products of that State was one hundred and thirty-eight per cent., while the increase of the population during the same period was only thirty-four per cent.

This shows a great advance, and gives us very brilliant hopes for the future of American agriculture. The increase in the productiveness of farming in Connecticut and Rhode Island has, we think, been quite as large as in Massachusetts. In the remainder of the New-England States, and in the Middle States, it has been rapidly improving, and for the next ten years, we think, will compare favorably with the model State.

There are doubtless a variety of causes contributing to this large increase in our agricultural products. But underlying them is the agricultural press, stimulating the people to form Farmers' Clubs, and State and County Societies, for the exhibition of all farm products; and then multiplying the power of these societies for good a hundred-fold by spreading their proceedings before the community; scattering broadcast the experiments and the teachings of hundreds of our best practical farmers; publishing to the world accounts of the best stock, the best tools, and the best fruits and vegetables. These noiseless labors of the press are doing a great work upon the farm, and we are but beginning to see the results of an improved husbandry upon our soil. Could we look at this matter in detail, we should find that nearly all this increase of productiveness is in those districts where these journals have the largest circulation, and that that soil yields most abundantly that has the most

intelligent labor bestowed upon it. It is a comfort to know that this once-despised book-farming has added thirty-five millions to the annual agricultural products of a single State.

ACCOMMODATION FOR HORSES.

Now that the Winter is approaching, we have a few words to speak in behalf of that noblest, and most abused of our domestic animals, the horse. That sign, which used to hang out upon country taverns of the old school, "Accommodation for man and beast," was usually a great fraud upon the public, at least in the latter part of its promise. The accommodation for the horse was generally a narrow stall, in an overstocked stable, with a hard plank-floor, and a mere apology for a bed of straw. Here, after a long day's work upon the road, old Dobbin was expected to refresh his weary limbs. The thing was impracticable in that atmosphere, foul with the breath of twenty other tired horses, and with the effluvia of ammonia coming up from the saturated floors; and upon those hard planks, where the weight of the horse made a firm pressure upon the wearied muscles, as he lay down to sleep. There was no chance for that relaxation of the muscles, which is as necessary to the brute, as to man.

At home, the horse was little better off, except that the stable was not full of horses, and he had a better atmosphere to breathe. There was the same hard bed, and the same pungent smell from the filthy floors. Not one horse in a hundred is properly accommodated in the Winter. In the Summer when turned out to pasture, they resume their natural habits in some measure, and regain that health which is so often lost in their Winter confinement. The benefit of the Summer pasture, which is universally conceded by all who have any acquaintance with this treatment, is not more owing to the change of food, than to the change of atmosphere and bed. The horse, in his native condition, breathes the pure air of the prairies, and has under his hoof continually the soft turf. When he lies down, it is upon a bed of grass which yields to the pressure of his body, and puts every muscle at ease.

Now, we believe, that all the conditions of the pasture, can be supplied to the horse in his stable, and that he can be kept in the highest health and spirits, in the barn, the year round. We speak now of horses upon the farm, where green fodder is accessible for a part of the year. In the city though their condition might be ameliorated, it can not be entirely remedied. Nature gives us the needful hints, if we will but heed her voice.

The horse can have as pure wholesome air in the barn, as he has upon the prairie, without any exposure to the keen winds and storms that assail him in his natural state. Barns are generally constructed, without any attention being paid to ventilation. The walls are nearly tight, and not unfrequently the supply of hay is stored in the mows over the stables, so that all the foul odors, escaping from the lungs and bowels of the horse are absorbed by the hay, until it becomes unfit for food. He is compelled to breathe over, many times, this foul air, and finds no relief except when he is taken out of the stable. Is it any wonder, that horses become diseased under this treatment, and die prematurely?

A barn should be constructed with ventilators, of a size corresponding to the number of animals it is designed to accommodate, so that the air will be changed as fast as it is breathed. This can be done so that the animals will not be exposed to currents, or suffer from any undue degree of cold.

Again—we can prepare a bed in the stable quite as comfortable, as any the horse finds in his grassy pastures. The best bedding we have ever found for a horse, is a coat of dry peat, muck or sods, covered with straw. It should be a foot thick, and the drier the better. This makes a soft warm bed, and while it accommodates the horse in the best manner, it furnishes in the course of the year an enormous quantity of manure. The straw, and the solid feces are removed every morning, and all the liquid is immediately absorbed. The stall should be at least six feet wide, and about a half cord of muck will make a good bed. This will last nearly two weeks before it becomes so saturated as to emit the smell of ammonia. A horse stable should always be as sweet as a parlor, and it is a constant waste for a man ever to have it otherwise. Of course, it requires more labor to furnish a horse with these accommodations, but we know from our own practice of several years, that the labor is abundantly paid for, not only in the health of the horse, but in the manure made by this process. We are confident that no farmer, who adopts this plan and learns its advantages, will ever abandon it.

We have lately seen stables constructed with deep cemented pits under the horse, instead of a plank floor. The pits were four or five feet deep, and would hold perhaps two cords of muck or loam. They were filled with loam to the ordinary level of the floor, and the horses stood directly upon the loam, having a bedding of straw, of course, at night. The advantages of the pits are, that they save the expense of flooring, and the muck does not need removing so often. Such stables, of course, have to be upon the ground floor of the barn, and can not be had in all cases.

The bed of muck well covered with straw, and the ventilation, are the things of chief importance, and these are within reach of nearly all farmers. Attention to these things would add greatly to the power of their horses, and to their own pecuniary advantage.

SMOKY CHIMNEYS.

Next to a scolding wife, a smoky chimney ranks first among domestic annoyances. It will bring tears into the eyes even of those "unused to the melting mood," quicker than almost any other evil. And yet it is no uncommon thing to meet with such chimneys. You see the signs of them in the ugly ventilators, cowls, smoke-jacks and other paraphernalia which disfigure so many houses in city and country. Ask the masons the cause of their smoking, and one will lay it to the shoulder of a neighboring hill, another to a peculiar current up the valley, and another to the unfortunate situation of the house with respect to the points of compass.

But is there not some known method of building chimneys so that they will ordinarily have a good draft? Yes, there is. Smoke being warmer and therefore lighter than the surrounding air, tends to rise, and it will rise, unless it meets with some obstruction, until it becomes as cold as common air; then it will stop. One principal use of a chimney is to keep the smoke warm and so promote its ascent. If a flue is built of uniform size from bottom to top, it will draw well in calm weather because it meets with no obstruction. But when gusts of wind blow around it, and down it, what shall hinder its smoking? The blow which a flaw of wind strikes on the top of an ascending column of smoke, is felt throughout its whole extent, and must cause it to puff out at the bottom into the room. Yet this difficulty can be remedied, at least in a great measure. Contract the flue just over the fire-place, where the draft is strongest, by throwing out a shoulder

from the back of the chimney, about one-third the depth of the flue. Let this shoulder *always be flat on the top*. Masons often err in making it sloping. This shoulder will offer great resistance to the pressure of any gust of wind on the top of the chimney, and so prevent the regurgitation of smoke into the apartment. If the top of the chimney also is contracted, it will help the matter by diminishing the surface on which gales of wind can act. The rule of architects is, for very windy and exposed situations, to draw in the top courses to "a third less than the area of the flue." Ordinarily, it is sufficient to contract the flue at the bottom.

MECHANICAL PREPARATION OF THE SOIL.

NO. VII.—DRAINING.

[Continued from page 222.]

The width of stone drains will generally depend upon the ease of digging, and the abundance of materials at hand for filling. In a soil filled with boulders, or large stones, it is necessary to dig the drain pretty wide, so as to be able to get out such stones easily, or to leave them projecting from the sides, without closing up the drain too much. As the drawing power depends more upon the perpendicular surface of the stone-filling than upon the width of the drain, the narrower it is made the better, since less material will be required for filling, and more can be appropriated to depth. A drain four feet deep and two feet wide, is vastly better than one two feet deep and four feet wide, while both require precisely the same bulk of earth to be thrown out, and of stone for filling.

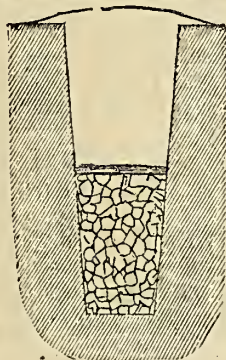


fig. 18.

Sufficient width for the convenience of the workman while digging, is required. If the soil be moderately free from rocks or boulders, and the filling stones be small, a convenient size for a drain like figure 18, will be 14 to 18 inches wide at the top, and 5 to 8 inches at the bottom, depending upon the depth, and the abundance of filling material. For the forms shown in figures 16 and 17, (page 222,) the bottom width must depend upon thickness of the flat stones used.

The size of stones used for filling.—The smaller these can be made, the better will be the drain. Larger stones have larger and fewer cavities between them, which are more liable to be used as burrows for animals, and to be filled up by falling or washing-in of earth. Experience has shown, we believe, that coarse gravel, and stones not more than one to three inches in diameter, are much better than those larger.

We have spoken of covering over the surface with turf, straw, &c. A much better plan would be to pass the stony materials over a fine sieve, and separate the fragments of not more than half an inch in diameter, and use these as a final covering to the stones, before putting on the earth. Vegetable materials soon decay, and often wash down and fill up the cavities. In all cases it is better to put the coarser materials at the bottom.

Expense of Stone Drains.—We have accurate tables of expenses of such drains in England and Scotland, but, owing to the difference in price of labor, &c., these furnish no guide in this country. It will readily be seen that the character of the digging, the depth of the drains, the facility of getting materials, &c., will vary much in each locali-

ty. The expense will, in general, be found less than would be expected. We have seen, in this country, men digging drains, to be filled with stones, for 12½ to 18 cents per rod, where the drains were from two and a half to three feet deep. (The present season is a favorable one for digging drains. The "hard times" have thrown thousands of persons out of employment, and it will be an act of mercy to set a multitude of destitute men to digging drains in almost every part of the country, even if they be paid no more than board and clothing. Even this hard alternative is preferable to absolute want and starvation.) In some places, the filling has been reckoned at nothing, since the drains formed convenient receptacles for depositing stones that were otherwise in the way. We think that where the stones cannot be procured and put in for 20 to 30 cents per rod, these will not be found as profitable as tiles, especially for small drains.

TILE DRAINING.

As previously hinted, we are confident that before many years elapse, a general system of *Tile Draining* will come to be considered one of the most important agricultural improvements of this country. This is the case now in England, and many thousands of miles of tile-drains are spread like a net-work over, or rather under, what are now the most productive and most profitable lands devoted to tillage. Even allowing for the present difference in the cost of labor, and the price of land and its products, it cannot be otherwise than that an operation which has proved of such immense advantage to that country, will be found proportionately useful here. It is to be remembered that if, after allowing a little for difference in climate, and comparatively but little, our soils, our crops, and our modes of culture, are essentially the same as in Great Britain. Too much stress is usually laid upon some supposed difference in these respects, and it is ignorance on this point that leads many persons to cry out against any suggestions drawn from our trans-Atlantic brethren of the plow. Let it be kept in mind that the composition of good soils is essentially the same the world over, and the same crops require in every place similar soils, manures and general treatment.

DESCRIPTION OF TILES AND TILE-DRAINS.

Although, even in this country, much has been written in reference to tile-draining, comparatively few persons have ever seen specimens of the tiles themselves. They are made of the same material as bricks, the clay being similarly prepared and burned. A common brick, with a hole through it lengthwise, or with a hollowing out, or gutter open on one side, is essentially a drain tile. As usually made they are in one of three forms, and are called respectively, *horse-shoe tile*, *sole-tile*, and *tubular tile*. They are made from 12 to 15 inches in length, and from 2 to 8 inches, outside diameter. The internal diameter is from 1 to 2 inches less than the outside, which leaves the rim from ½ to 1 inch in thickness—the thickness depending upon the size of the tile, and the consequent strength required. They are made very rapidly by a simple, cheap machine, costing from \$100 to \$250. (If we can procure a drawing, we will present an engraving of one of these machines in a future number, and describe the mode of manufacture). The form of tile first adopted was the following:

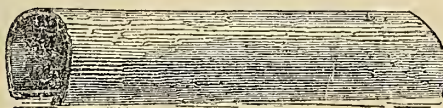


Fig. 19.—HORSE-SHOE TILE.

It is named from the resemblance of the

opening to a horse-shoe. This form was preferred for a time, but is going out of use. The thin edges upon which it stands are apt to sink into the earth. To avoid this they are sometimes laid down upon thin boards which last until the soil underneath and around them has become thoroughly settled and hardened. The more common method, however, is to place under them a thin brick sole-tile as shown in the next figure:

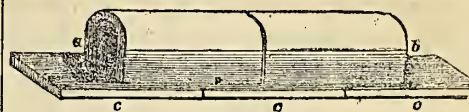


Fig. 20.

The soles, c, c, are first laid in the bottom of the drain, and the horse-shoe tiles, a, b, are so arranged as to break joints.

The end of the drain is shown in figure 21, where the tile is surrounded with a little earth. A main objection to this form of tile is the greater expense of having two sets of tiles, and the additional trouble of hauling, handling, &c. The chief advantage of this form is, that the openings along the edges admit the water more freely, than in a tile entirely closed on all sides, but we shall show further on, that this is not needed.

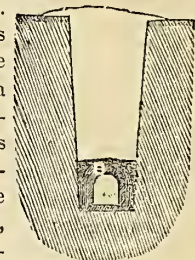


Fig. 21.

An improvement upon the horse-shoe tile is the attachment of the sole directly to the hollow tile, at the time of making, or in other words, making a tube with flanges or lips upon each side of the bottom as shown in the next figure:

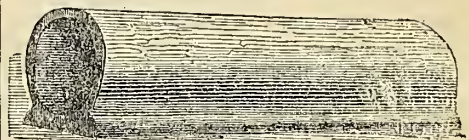


Fig. 22.—SOLE-TILE.

This is the form now generally adopted, and the only improvement we can suggest, is to make the lips or flanges at the bottom a little wider than they are usually manufactured, so as to give a broader flat base to rest upon. One other form of tile is sometimes made, which is a simple round tube as here shown:

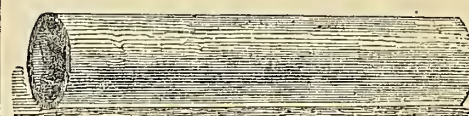


Fig. 23.—TUBULAR TILE.

These are not much used, except for very large drains, where the size of the tile itself gives sufficient base to rest upon, without the necessity of adding the flange. Whenever the diameter is less than six inches, it is preferable to add the sole as in figure 22.

LAYING THE TILE.

The size, place, and best mode of digging drains will be discussed hereafter. To lay down the sole-tile, fig. 22, they are placed in the bottom of the drain, end to end, so as to make one continuous tube through the whole length. As they are laid down, they should be secured firmly in their position by little stones wedged in upon their sides; and they should also rest upon a firm bottom, so that the openings of the successive pipes always meet exactly together. We strongly recommend to put in a thin narrow board the whole length of the drain, and to place the tiles upon this. This board will cost very little and

with proper wedging upon the sides, the tile will not be moved out of place either in a hard or soft soil. We recommend putting in this narrow board even in the hardest soil, for the occurrence of any soft spot in the soil, however small, may cause a single tile to settle a little at one end, and thus close up the perfect continuance of the tube, and spoil the entire drain.

Many recommend using clay collars over the joints, where the ends of the tiles meet. This will prevent their being displaced sidewise, but will not keep them from settling unequally, which is a more frequent cause of failure. Laying in boards will also be found much cheaper than using collars, for any rough, knotty boards, or thin slabs will answer, as only a continuous upper surface for the tile to rest upon is required. With these boards, less care will be required in cleaning out the bottom of the drain, since the boards can be laid in and soon levelled down by striking them with a heavy block. Long before these boards can decay, the tile will have become so thoroughly imbedded in the surrounding soil, that there will be little danger of future displacement. Except in very soft, spongy soils, where the permanent use of thick boards will be needed, the thinner the boards the better, since their decay would produce less sinking of the tiles, if any take place—their chief object being to keep the tiles in position until the drains are filled and thoroughly settled. In some localities slate or thin flat stones are abundant, and these may be substituted for boards; and they may even take the place of soles if horse-shoe tile are used.

When these tubes are thus arranged and firmly wedged in upon the bottom, the next process is to refill the drains. If in digging, any gravelly materials have been thrown out, these should be put directly upon the tile, and the rest filled up with the soil. It is always desirable to have as thick a bed of porous materials as possible directly upon and above the tiles. Some recommend to cover them first with grass, turf, straw, &c. These answer a very good temporary purpose, but it is doubtful whether the ultimate decay of these may not clog up the tiles. A covering of gravel or fine stone upon and around the tile is far preferable. The soil may be thrown back into the drain with a shovel, or more economically still by a plow, with a double tree of 9 or 10 feet, so that it may be drawn by two horses, one walking upon either side of the drain. The earth should be rounded up a little over the drain, to allow for settling. A section of the drain thus completed is represented by 21, though in this figure the tile is not of the round form.

The most perfect mode of constructing a drain is that shown in fig. 24. Here we have in the bottom a drain-tile *a*, of any form, round or horse-shoe, and over this a bed of stones of five, ten, or fifteen inches in thickness, and the common soil to fill up the remainder. If stones are thus put over the tiles they should be laid in carefully, to avoid breaking, or cracking the tiles.

But this addition of stones is not necessary. If there is an open passage 2½ or 3 feet below the surface, the water level will not long remain above that point, even in the most compact soil. This is abundantly proved by the fact that a hole dug into the stiffest wet clay, will speedily fill with water, which would not be the case, if the water

could not readily make its way in from surrounding points.

Again, many persons on seeing sole or pipe tiles laid down with the ends put closely together, have their doubts whether the water will enter the drain with sufficient freedom. A little consideration will settle this matter. The truth is you can not keep the water out of a tightly laid tile drain, for however near the ends may be together—and they should always be closely laid to keep earth from falling or being washed in—there will still be seams enough in the course of a few rods to admit all the water the drain can carry off. But suppose, for illustration, that it were practicable to make each piece of pipe-tile ten feet in length, the water would still enter freely by passing directly through the substance of the tile. They are of the same material as bricks, and we well know that an unglazed vessel of brick would not hold water; on the contrary, the liquid would speedily pass through the open pores and ooze out upon the bottom. So the water will settle into a tile drain passing directly through its sides.

When a great amount of water is to be carried off from a field, or a main drain is required, it often becomes necessary to use very large tiles. In

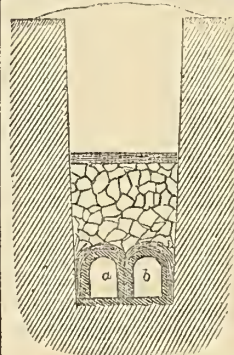


Fig. 25

such cases it is frequently more economical to use two smaller tiles *a, b*, side by side. Large tiles are different to manufacture and to handle. The cost of two smaller tiles is little more than that of a single large one of the same capacity; and there is this advantage in the use of the two smaller ones, that they not only assist in keeping each other in place, but when there are two distinct tubes there is less chance for absolute failures, for should one by any chance give way there will still be one left.

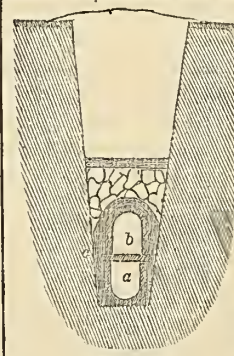


Fig. 26.

Expense in digging may be saved by leaving the bottom of the drain narrower than in fig. 25, and placing one tile over the other as shown in fig. 26. If horse-shoe tiles be used, only one flat tile will be needed between *a* and *b*. A large sole-tile might be placed below, bottom upwards, and a horse-shoe tile *b* be set upon it, though two sole-tiles with the flat sides together would form the firmest drain.

We have for convenience in the use of illustrations, in the foregoing as well as in the next figure, shown only the horse-shoe tiles, but the same description holds equally good for the sole tile, (fig. 22) which we consider preferable.

Where one drain enters another upon the side,

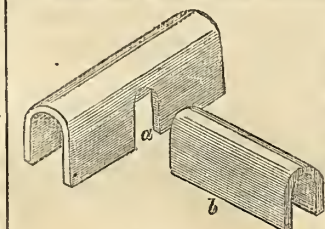


Fig. 27.

it will be necessary to procure tiles specially prepared like those in fig. 27; or they may be readily cut from the common whole tile, as they are as easily worked into shape as common bricks

Tiles, of whatever form—sole, horse-shoe, or pipe, should be well made. They should be smooth on the surface, and ring like cast iron when struck with the knuckle. If overburned, they are liable to crack and break, and if under-burned, they become soft and spongy, and fall in. There is considerable variation in length in this country, some being fully fifteen inches long, while others are but twelve inches. The short tiles are preferable, if proportionably cheap, and buyers, in ordering, should always stipulate for some particular length. Two factories were recently selling two-inch pipe-tile, the one at \$10 and the other at \$12 a thousand; but on measuring, we found their lengths respectively twelve and fifteen inches. Those at \$12 and fifteen inches long were of course the cheapest.

The smaller size of tiles are now sold for \$10 to \$18 per thousand in this country, or at the rate of fourteen to twenty-five cents a rod; and they will continually become much cheaper. As soon as the advantages of these tiles become known, so as to create a demand for them, machines for their manufacture will be introduced into brick-yards generally in the older parts of this country, and the cost of transportation will be greatly reduced. In England where labor and coal for burning are cheap, and the manufacturing is carried on upon a large scale, they are often sold at the kilns as low as \$2 00 to \$2 50 per thousand. We shall hereafter have more to say on the machines, and modes and cost of manufacture. With a suitable machine they can be readily made at any brick-yard in the country.

A PRACTICAL DRAINER'S SUGGESTIONS.

Mr. W. L., of Fairport, Chemung Co., N. Y., writes: I use horse-shoe tile if the bottom or sub-soil is hard enough, and pipe tile if it is sandy. If in quick-sand I lay boards under the tiles. After the tiles are laid down I cover them with three or four inches of clean coarse gravel, so as to entirely surround them, except underneath. One load of gravel covers about a dozen rods. I would suggest that a drain of 2½ or 3 feet in depth, if filled in with a close, tight sub-soil, and covered with the soil as thrown out, will defeat itself, by being below the course of the water. A more shallow drain, or one filled with gravel to the top of the sub-soil, would answer a better purpose. I would also suggest that a wet spot may be effectually drained by a single ditch across the upper side, or where the water begins to ooze out of the higher ground, thus cutting off the water forced to the water surface, and compelled to work its way through the soil till it finds a more porous sub-soil. . . . We omit remark here, as these points are being discussed in our articles on this topic.

POULTRY—PREPARING—KILLING—DRESSING—MARKETING.

Preparing.—Make them fat. A grain-fed, plump, fat fowl will sell for double the price per pound of a lean one. A liberal feeding, for a few weeks before killing will nearly double the weight and double the price, making a quadruple return for the finishing off food.

Killing.—Keep them from bruising themselves. Secure the wings the instant they are caught, and tie them behind the back. Tie the legs together, hang them upon a pole, and then cut off the head with a sharp knife, leaving as long a neck as possible. Let them hang until they bleed clean. Keep them from food for two or three hours before

killing. Any grain left in the crop sours and materially injures the flesh if kept long before cooking.

Dressing.—Pick them dry, taking particular care not to tear or bruise the flesh. If scalded at all let it be done quickly and in water not quite boiling hot. Be careful not to rub off the outer thin skin from the legs. If not to be packed in boxes, after picking dry or scalding, wash them in clean warm soap-suds, and “plump” them, that is hold them in boiling water about five seconds. If to be packed for carrying a long distance do not wet them at all, except to wash the neck. Strip back the skin on the neck, cut off the neck bone, draw the loose skin over, tie it tightly, cut off the bloody portion a little way beyond the string and wash off any blood, wiping dry. This will keep them clean and bloodless, and increase their saleableness.

Marketing.—Let them hang until entirely cold, and then pack in rye-straw if it be obtainable, putting them into boxes holding not over 200 pounds. The packing straw should be bright and clean, and it will be greatly improved by drying it in a warm oven before using. Put straw between the carcasses, and around the sides of the box—enough to act as a spring to prevent bruising, and pack straw closely under the cover. A little care of the kind described above will greatly increase the market value. Most persons keep back all their poultry until Christmas or New-Years day. This is not always the best policy. We have noticed for several years, that poultry is scarcest and highest here for a few weeks before the holidays. This will be the case this year. There will not be half the usual demand for turkeys and other fowls at Christmas, because a majority of families are economizing, and there will be a great decrease in the number of the lower classes who can afford to buy poultry at all, unless it happens to be the cheapest food in market. As soon as settled cold weather arrives, poultry if dressed and packed as above in tight boxes, may be sent from the most Western States to this market. Contract for the through expenses and send to some reliable commission dealer who will take the packages in charge on their arrival, and dispose of them at once. If you do not know of any other person here to entrust them to, we think you can rely upon ISAAC EMENS, 226 Front-st. We only know of him, that several of our acquaintances have sent poultry to his care and have been pleased with him. There are many others equally reliable for aught we know.

LOOK OUT FOR WINTER.

The falling leaves remind us that the cold and stormy months are nigh at hand—are even here. Silently, but steadily and surely, the seasons revolve, each bringing its peculiar pleasures and duties. The boys throughout the country, we take it, are now enjoying themselves in gathering chestnuts, beechnuts, butternuts, walnuts, and the like, for their consumption during the long Winter evenings. Farmers and provident housekeepers generally are storing away in their cellars, apples, Winter-pears and vegetables, and supplying their barns and sheds with all things needful for the health and comfort of their stock.

Alas! we fear we must recall the last statement, or modify it somewhat. There are farmers who neglect some of their duties at this season, and need an occasional prompting from their neighbors or from the agricultural press. To such we say, Look out for Winter! See that your barns are in complete repair. It is economy to spend all needful time and labor in doing this. All domestic animals, as you know, must keep up their vital heat by some means, to about 100°, and this can be done wholly by consuming food, or in

part by food, and partly by shelter. If they are left out of doors, or kept in dilapidated stables, they will have to eat much more to keep themselves warm than if they were comfortably housed. And besides, a uniform temperature is healthier for animals, as for men, than a changeable one. It is great folly to keep stock out of doors in Winter for the sake of “hardening” them.

Our exhortation, then, is to give horses, cattle, sheep, and even pigs and poultry, good Winter quarters. Those which are fitting for market, will of course need more shelter and care than others which are simply being wintered over; but all should be made comfortable. Battens should be nailed over the cracks on the exposed sides of the barns, every loose board should be tightened, and double walls in the immediate neighborhood of the horse-stalls would not be labor thrown away.

Then, as to fodder, see to it that you have enough. Short commons in Winter is no mark of good farming. Pinch yourself, rather than your stock. To make food go a great ways, provide yourself with a straw-cutter. Corn-stalks cut fine will be eaten up to the stubs by cattle; and straw, clover and coarse hay, will be eaten much cleaner than if fed out uncut. They will also be better digested. If grain or meal of any kind is mixed with the cut food, it should always be moistened with water. Apples, carrots, turnips, potatoes, &c., should be kept on hand, and fed out at intervals in the Winter. The dumb beasts relish these dishes exceedingly, and every true farmer can read their satisfaction in their expressive faces, and such reading does him good.

THE AGRICULTURAL SHOWS.

We have found time to visit a few only of the State and County Agricultural Exhibitions, but these have been quite sufficient for the present year, and for all time to come, unless they are to be differently conducted hereafter. From the representations held out previously, and from the modified tone of the “announcements,” we hoped our agricultural gatherings would this year be something more than regularly organized Horse Races, with a few extras thrown in, such as cattle, horses, sheep, swine, grain, vegetables, implements, &c., just to give an agricultural coloring to the affair, and to draw out the exhibitors of such useless things, together with their families and—their “quarters.” But we confess to disappointment. With a few honorable exceptions, so far as we have witnessed and heard from, the principal attractions of the so-called Agricultural Exhibitions this year have been the exciting scenes upon the circular track. We appeal to those who have been at most expense and trouble in getting out their farm and garden products on such occasions, to say whether they have not invariably found that their animals, grain and fruit, &c., have not been almost entirely neglected except by a few early or late straggling visitors, and simply because during the middle of each day, when nine-tenths of the people visit the grounds, their whole attention has been drawn off to “trials of speed.” The principal expense and the best ground has been devoted to the track, the seats have all been arranged there, while the really important things exhibited have been literally crowded into the narrowest compass, in some out-of-the-way corner, tent or building.

We approve of the exhibition of horses; we fall behind none in our admiration of that useful animal; we believe speed to be one of the good qualities of horses designed for some kinds of employment; but how improvement in speed even is promoted by the race course, as usually con-

ducted, is rather more than we can understand.

We have no sympathy with the race-course in any shape; we cannot see anything admirable in the spectacle of two or more horses on a track whipped and goaded to the utmost, by human-monkey riders in jockey caps. If others enjoy such sport, let them seek an appropriate time and place. We claim that they have no right to introduce such sports, surreptitiously or otherwise, upon grounds set apart for the exhibition of the products of agricultural skill and industry. Not one farmer in ten thousand is a raiser of fast horses, and not one in five cares for them. Horses should be exhibited at agricultural fairs, and their speed and even “bottom” should be shown, but this should be done singly. They should be exhibited and ridden by their proper owners (or those who raised them), dressed like human beings—not by the aforesaid human-monkeys in jockey caps.

We have hitherto urged farmers to turn out with their wives and children, and go up to these festivals; but unless there be, hereafter, some sure guarantee that their sons and their daughters are not to be initiated into the mysteries of the race-course, with a taste therefor stimulated and developed, we feel it to be our bounden duty from this time forth to do what we can to discourage all future attendance upon any such gatherings. We have not done with this subject.

SUGAR FROM WATERMELONS.

A friend has shown us a private letter, dated Sept. 4th, from a brother in San Francisco Co., Cal., from which we make the following extract. “I intend presenting (to the Mechanics’ Institute of San Francisco,) some specimens of syrup and sugar from the watermelon. I consider this melon as the best source of syrup that has ever been tried—far more convenient than the cane or beet. All that is necessary is to press out the juice and boil; then strain through flannel, and evaporate to a proper consistence. One gallon of juice from the pulp yields one pint of syrup or three-fourths of a pound of sugar.” We are promised further particulars which will be given to the readers of the *Agriculturist*.

REMARKS.—If half that has been said of the enormous growth of watermelons in California and also in Kansas be true, there may be some plausibility in the idea of making watermelon syrup and sugar profitably. Even in this vicinity, on Long Island and in New-Jersey, they are grown of enormous size and in great quantities—at the cost of one cent each, it has been estimated. In Vol. XIV at page 250 we published the following item:

A correspondent writes: “I endeavor to raise a good watermelon patch. They are a healthy and delightful fruit. I cultivate the Icing variety; plant early in May, and again towards the close of the month, so that they may come in succession. When they begin ripening we commence cutting and using them freely during the hot weather. When the weather becomes cool in September, we bring a quantity of them to the house, split them open, with a spoon scrape out the pulp into a colander, and strain the juice into vessels.

We boil it in an iron vessel to a syrup, then put in apples or peaches like making apple-butter, and boil slowly until the fruit is well cooked; then spice to the taste, and we have something that most people prefer to apple-butter or any kind of preserves. Or the syrup may be boiled without fruit down to molasses, which will be as fine as the sugar-house molasses. We have made in a single Autumn as much as ten gallons of the apple-butter (if I may so call it) and molasses, which kept in a fine condition until May.”

RURAL SURROUNDINGS.

NUMBER VIII—PEACOCKS—GUINEA HENS—

RAT TERRIERS.

It is high time we close our already numerous catalogue of country companions in the way of beasts and birds. Yet, we can hardly do so, in justice to our own long associations with a few creatures not yet described, without naming them. In our list of poultry we have omitted two very beautiful, and we may as well add, compared with those we have described, very useless birds, for all the real utility there is about them. These are the Peacock and the Guinea hen. Every one who knows much about poultry, knows what they both are, and a description of either is quite unnecessary. In form and plumage, although exceedingly unlike, they are both rare birds to look upon. Shy in manner, with an ugly vain or vicious temper towards all other fowls, and no particular affection for humanity itself, there is little to ingratiate them with their keepers beyond the variety they give to the poultry yard, and the luxurious plumage which decorates them. We have kept them many years. We keep them still. We have discarded them sundry times, after they had sorely tried our temper, and exhausted our patience with their mischiefs, and their vices. Then relenting, and yearning towards them as a parent yearns towards an undutiful child who has some redeeming traits of character—the comparison is scarcely a proper one, but we will risk it—we again took them into our keeping, yet not into our confidence. We tolerate them, only. Pugnacious, noisy, rude and cowardly, they are a perpetual pest to all the well regulated poultry on the place, and we shall refrain from giving any directions about their breeding and rearing, not wishing to multiply races of birds, not decidedly useful on the farm. We therefore refer you, indulgent reader, to the book authorities, where you will find out pretty much all worth knowing of the Peacock, and Guinea hen; and what the books don't tell, you will find out fast enough yourselves, when you have had the birds six months on the farm in daily hostility with the other feathered families of the establishment.

THE BLACK AND TAN, SMOOTH-HAIRED TERRIER

Is among the most useful of the pets we associate with in our rural occupations; and we can not forego paying our grateful tribute to his useful, and agreeable qualities before closing our family schedule. These active and sagacious little dogs are the most inveterate exterminators of all predatory vermin that we have yet had about us. Small in size, active and expert in movement, sagacious in understanding, and kind in disposition, they embrace all that is really useful in the way of a farm-dog. They are true, and loving in disposition, yet exceedingly watchful of every thing in, or out of doors, with an instinctive hatred of rats, mice, minks, weasels, and every other pest which prowls about the premises. With an unflinching courage they attack everything offensive. Yet they are affectionate, loving and constant to the family with whom they associate, familiar with the children, if there be any about the house, and companionable in every way that a dog should, or need to be. In size they run from ten to twenty-five pounds. Some are very diminutive, not weighing over six pounds, and quite good rat-terers at that; but such size is too delicate, running frequently into effeminacy. A first-rate rat-terer should not be less than fifteen pounds in weight, and of active shape and proportions.

Some people have a vile habit of cropping their ears, and tails, "to make them look smart," as they say. But such cropping injures them in hearing, eyesight and running. We have tried the whole thing, and know it to be so. The ears and tail of a

terrier, should be left as nature made them, a protection to their hearing, and a guide for their turning in the chase.

We can not go into the mode of breeding, and training the terrier in our limited space. The dog books will tell you of these, and there is, also, a chapter on dogs among the last pages of Allen's Rural Architecture, giving all the information concerning the terrier which is required for practical uses. With this reference we leave him.

WHAT OF THE "TIMES?"

Like most of our subscribers living in the country, we "read the papers," and from these, more than from any other source, have we learned that there has been a "terrible financial crisis." We have heard that New-York city is bankrupt; but though we go daily from our quiet country home to our office, which is located in the midst of great blocks of heavy dealers in various kinds of merchandise, we know not of half a dozen business houses in our part of the city that have "suspended," "assigned," or "failed." We deposit money in our good old bank, and when wanted, draw it out either in bills or in specie, as may be desired; and although it is said that specie payments are suspended, we have really seen no special evidence of this fact, save in the single circumstance, that we find it difficult, or next to impossible, to get any fair equivalent for Western or Southern Bank Bills sent to us in payment for subscriptions. So much for what we have seen and felt, and our experience has, we doubt not, been similar to that of nine-tenths of our country-dwelling readers.

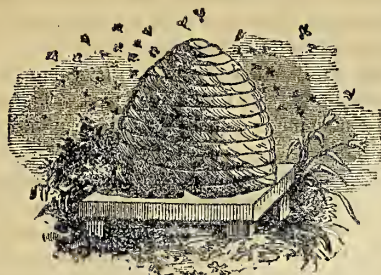
But it is not to be denied that there has been, and is, great trouble among certain classes of traders, manufactures, and dealers in railroad stocks, &c. It is also evident that the disturbance in the money market, and in the domestic and foreign exchanges of the country, have already told sorely upon the prices of farm products. The want of confidence between the East and West has almost entirely cut off the usual supplies of money necessary for buying grain. The inability of farmers to sell their produce has prevented them from paying their "store debts;" the merchants buying on credit have been unable to meet their debts to the city jobbers; the jobbers have failed to pay the importers; and the importers cannot pay their debts to foreign or home manufacturers; and thus a whole chain of dealers have been in trouble, and it is not strange that suspensions and failures by the hundred have occurred and are occurring in certain branches of business. The dealers on credit have been unable to pay their debts to the banks, and these in turn have been weakened, and to save themselves they have suspended specie payment, in name at least.

Without speculating upon the causes of this state of things, let us inquire what is to be the result? The first effect, and the one which will be most felt by our readers especially, is the depression in prices of farm produce. To those who have run in debt on the expectation of paying with crops to be sold at former rates, this will be a pinching time. And we see no help for it. Money has taken a higher relative value. With a partial destruction of credit, the real currency, the gold and silver, have a larger work to do in the exchanges, or trade of the country, and their value is enhanced. There is less money to buy the grain crops, and more grain must be given than formerly for the same weight of gold—a dollar weight for example. We say, those who have contracted debts will suffer, because they must needs give more of their crops to pay a debt of fifty or a hundred dollars—the legal debt being always founded upon a metallic currency.

Those who are not in debt will not suffer loss in the lower prices prevailing, for from the higher value of money, it will buy a greater quantity of those articles which they desire or need to purchase. When wheat was twelve shillings a bushel, sugar was twelve cents a pound. But when wheat sells for eight shillings, sugar will sink to the neighborhood of eight cents per pound, and so of cloth and other articles of merchandise. It is true, that this change in the relative value—this equalization of prices—will not take place suddenly all over the country. The disturbance in the money market and in the exchanges between the East and West will fall first upon the heavy products of the soil. Traders who have bought their goods at high figures will not reduce prices at once to the proper level, but the change will surely come, and that speedily. The trader who buys his stock, with cash, in this city to-day, can do so at prices far below what he could do only a few weeks since. The depreciation will fall hard upon the importers and manufacturers, and many of them must fail—indeed, almost all of them who have not a surplus from former profits to fall back upon.

But there is no cause for general alarm or despondency. The panic makers would have us believe we are coming to sudden and irretrievable ruin. But, in truth, the country is now richer, in what constitutes real wealth, than it has ever been before. With all the failures and suspensions, nothing worth speaking about has really been lost. We have to day more gold and silver in the country than one year ago—more products of the soil—more of all the elements of real wealth. We have parted with some imaginary wealth. A farm, a corner lot, a Western village property, considered worth five thousand dollars one year ago, may now sell for but half that sum, but its intrinsic value is just as great or greater now than then. The stock of a certain railroad may then have been held at \$100 per share, while now it may not bring a dime per share, but the real worth of the road to the country, as a means of bringing produce to market, in opening and developing the farm lands along its path, and in other ways, is just as great as if its stock sold at par. The individual stock holders who invested their money in it have suffered severe loss, but the country is richer for its being built. The vast net-work of railways which have been constructed at so much cost, and which have entailed so much loss on individuals, are great additions to the wealth of the country. Suppose we have paid seven hundred millions of dollars for building 15,000 miles of railways. We have the railways now as a source of wealth—they are so much substantial capital—just as useful and just as valuable as canals, ships, wagons, or teams, to carry grain to market, to carry back merchandise, and transport travelers. England expended seven hundred millions in the Crimean war, and has nothing left for the money.

An immense sum—more than the entire cost of all the railroads in the country—has been added to our national wealth by the favorable Autumn weather bestowed upon us. Who can estimate the aggregate advantage to the corn crop, of this propitious ripening season? Who can calculate the value of the unusual Fall feed, so luxuriant over ten thousand pasture fields? We repeat, then, that whatever may now be the relative value of money and produce and manufactures, whatever may have been lost by individuals, the whole country has been benefited, and is richer than ever before in all that constitutes real wealth. War, pestilence, hurricanes or earthquakes have not annihilated any of the products of our labor. Let us then cast away all gloomy forebodings and looking upon the bright side of the picture, take courage for the future.



WONDERS OF THE BEE-HIVE.

NUMBER V.

While we are studying the multitudinous contrivances that add to the pleasure of our rural homes, let us not forget that there is one which, while least expensive, will at the same time afford both entertainment and profit. In the Aquarium, we have a glass box into which are introduced the gold fish, the shell fishes of different kinds, together with sea-weeds and other products of the briny deep in great variety. Not less entertaining is our glass-box, constructed for an

OBSERVING BEE-HIVE.

Rarely do we look into one of these hives without finding some new thing to excite our admiration. It is very easy to construct such a hive, and when once made and peopled, it demands no great care for a whole season, while by day and by night all the work that is going on within may be kept in constant view. It is enough for our present purpose to say that our observing hive contains a single piece of comb about twelve inches long and eight inches broad, each side of which is protected by a plate of glass; and though the bees are exposed to the full light of day, and occasionally to artificial light in the evening, their operations have gone on without interruption from week to week through the summer months; so that we write not by guess work, as too many have done, but according to what our eyes have seen.

A family of bees, when properly constituted, consists of one *mother-bee*, several hundred *sons*, and thousands of *daughters*, beside some thousands of *baby* bees in every stage of development from the newly-laid egg to full maturity.

The most numerous class consists of what we call the *workers*. They are of the female sex, but are not perfectly developed, and are exempt from the responsibility of reproducing the race. They are occupied constantly, however, in the care of the young, and in providing for the wants of the whole community. They bring the honey from the fields for daily use and for the Winter's supply, they collect the pollen or bee-bread for the brood, and the *propolis*, which answers the same end as putty in closing up cracks. They also feed the brood, and keep them warm, and at the right time cover up the cradles with well-fitting blankets,—beside doing many other things which it is unnecessary to mention now. We need hardly introduce the portrait of a worker-bee to our readers, as it is well known to be the only one of the family that is in the habit of making calls. The mother-bee is too busy at home to venture out into the gardens in search of flowers, or penetrate into pantries, allured by sweet odors; and the *sons*, we are sorry to say, are a lazy set, that after eating a comfortable breakfast, sally out for a short time at mid-day, merely for a little flirtation with any one of the other sex who may be at liberty to receive their attentions.

The *mother-bee* is usually called the *queen*, from

long-received tradition that she is invested with authority as a sovereign. There is no evidence, however, of the exercise of anything like authority on her part. There are no laws and no penalties, and not even any domineering, nor any contest for superiority. Every thing goes on, so to speak, like clock-work, and the wonder is that every bee should enter so fully and exactly into the plans of the rest. The absence of the queen from a hive, however occasioned, makes an excitement as soon as it becomes known. She is the rallying point in times of alarm, and there are some indications of attachment to her person. Many years ago, a Mr. Wildman, in England, created great astonishment by the almost magical power which he had over swarms of bees; the secret of his control over their movements was, that when he had once secured possession of the queen, their instinct made them all alight where ever he placed her, clustering like a body guard around her person. If he held her in his hand, they immediately flocked together there, and if he



Queen.

put her on the branch of a tree, that became the attractive point. The shape of the mother-bee, as our engraving shows, is quite different from that of the worker. She is longer and larger, and more slender and wasp-like in form. Her wings are also shorter in proportion, and her movements on foot are more rapid. She is rarely seen in ordinary hives, but in the observing hive may be kept in constant view. Her chief employment is to lay eggs, and the process is very curious. As she traverses the comb, the bees disperse before her, and she thrusts her head momentarily into the cells, till she discovers one that answers the purpose. Passing over it, she puts her abdomen into it, and a moment after, turns part way round with a kind of convulsive movement, after which she withdraws her body, and proceeds to another cell; the whole operation, as we have noticed it, occupying about half a minute. As she leaves, a small white oblong egg, slightly curved, is seen at the bottom of the cell, fastened to the wax by one end. We have lately seen three, four, and even five eggs in the same cell, and for a time supposed this to be an occurrence not described by any writer on bees. We find it alluded to by Wighton in his "History and Management of Bees," who says, "sometimes there are two or three eggs in one cell. This is owing to the queen being very prolific." We are disposed, however, to give a different explanation of the fact. In the hive where this was observed, there was a great abundance of empty cells, some of which had been used for brood, but the population was somewhat reduced, and the queen seems instinctively to have kept within the limits which the bees were able to cover and protect. It was not found, however, that in any case more than one of these eggs was allowed to remain many days in the cell.

The mother-bee must be without a rival, and if she perishes, her family are not willing to receive another put in her place, at once. We introduced a strange queen into a glass box with a few workers that had been separated from the main hive. They at once showed fight and maimed her, by biting off one of her legs. At another time, we put a strange queen into an observing hive which had one of its own. Quick as a flash a crowd of bees gathered around the stranger, and formed a cluster as compact as possible, and as large as a butternut, entirely concealing her from our view, while the other queen, though only an inch or two distant, seemed to be entirely unconcerned and unaware of the excitement. After six hours, we opened the hive, and tearing the cluster apart

with no little difficulty, released the prisoner, who was still alive, though so nearly exhausted that she died soon after. In this affray the workers alone took part, though Huber had led us to expect a duel between the two queens. On his authority it is said "if a supernumerary queen be introduced into the hive, she is laid hold of by the bees, who continue to be spectators, and even promoters, of the combat, in which one or the other of the queens is destined to perish." Undoubtedly such combats do sometimes occur, at least between queens which have come to maturity in the same hive.

The *drone* also must have a place among our pictorial representations. A noisy fellow he is, but good natured and well disposed, of larger size than the other inhabitants of the hive; more unprofitable and unwelcome.



Drone.

He is a mere consumer, and not a producer, and as the summer passes away, the worker bees begin to feel that "his room is better than his company." The hints to this effect are pretty plain, and if not successful, are followed by the most extreme and disagreeable measures, such as nibbling off his wings, driving him out of the house, and turning the key on him at night. No mercy is shown, and it is said that often in large apiaries, the bees of every hive, as if with common consent, take the same day for the expulsion and slaughter of the drones. And so the mother and her daughters keep house together through the winter, living on the fruits of their own labor—and ignoring all the "rights" of those who have contributed nothing to the interests of the commonwealth. In this at least they mete out justice, and whether by authority of law or not, their action as a vigilance committee have considerable claim to be endorsed as reasonable and proper "under the circumstances."

A SIMPLE FLY AND ANT TRAP.

Mr. Jno. R. Smith, of Hackensack, N. J., has furnished us with a simple composition which he says is much used in England as a sort of trap to catch flies, ants, and other insects. The composition is spread upon paper, and sold by pedlars at a penny a sheet. Mr. Smith has used these sheets, made by himself, around the trunks of trees, plants, &c., the varnish side out, to prevent the ascent of insects. It is made thus: Melt resin in any vessel over the fire, and while soft add to it enough sweet oil, lard oil, or lamp oil, to make it, when cold, of the consistency of molasses. This, spread upon writing paper with a brush, will not dry in a long time, and is so sticky as to hold fast the legs of any insects attracted to it, or accidentally coming in contact. It may be placed about the house, the pantry, or elsewhere, and will soon attract and hold fast ants and other vermin. It also used on table legs, and the edges of shelves, to prevent the ascent of ants, &c. One of the highest recommendations of this preparation over the ordinary fly paper is, that *it is not poisonous*.

WATERING PERSPIRING HORSES.

A Subscriber in Warren, R. I., inquires our opinion in regard to "giving water to horses when they are sweaty." If horses are to be driven or worked at once after drinking, it will do no harm to give them water to a moderate extent when hot or sweating; but if they are to stand still for a half hour, more or less, and especially if exposed to cold air during this time, they should not be allowed to drink over two quarts of water till they get cold, which will not be in less than from one to two hours, ordinarily.

THE BEST FORM OF HORSES.

THE HEAD.—“The head of a horse should be narrow, lean, and not too long; but the principal matter to be observed respecting it, is, that it be well united with the neck, so that the horse may be enabled to bring it into a good position, and the best position in which a horse can possibly hold his head, is such an one as is perfectly perpendicular from the brow to the ground, so that were a plummet to be suspended from that part, it would just raze or touch the nose. Every horse that has too large a head is apt to bear too hard on the bridle, which not only tires the rider's hand very much, but exposes both to several disagreeable accidents; and besides, a large headed horse can not appear to any advantage unless he has a very long and well-turned neck.” Thus says the “Farrier's Dictionary,” upon which the Editor of the American Veterinary Journal

REMARKS.—The above paragraph looks very well on paper, but is a strange compound of truth and error. “The head of a horse should be narrow, lean, and not too long.” A narrow, lean, and short head, affixed to the body corporate of a powerful draught horse would appear as ridiculous as if any one were to carve a statue of Dan'l Webster, representing his vast bodily proportions, and adorning the upper works with a cranium resembling the form of a pear, narrow, lean, and “chunky,” “not too long.” Therefore, the writer should have qualified his theory, and informed us what kind of a horse the above described head would be likely to adorn. If it be intended for the body of an animal of the nervous temperament, with dense tissues, spare muscles and diminutive statue, the theory may be correct; but reverse the order as above, and every one will perceive that the head and body are not symmetrical, which is a matter of considerable importance in the selection and purchase of a horse.

The position of the head is next referred to. “The best position in which a horse can possibly hold his head is such an one as is perfectly perpendicular,” &c.

The writer has here evidently fallen into a common error, which confounds a faulty position with a physiological one. A head describing the same perpendicular line as that of the fore extremities would look very funny; might set very well on the neck of a goose or pelican, or phoenix, but when the horse is concerned, that is another matter. The best position in which a horse can possibly carry his head is that which he naturally assumes, uninfluenced by check or other fetter, rein or martingal. The position indicated by the writer of the above paragraph as the “best,” is acknowledged by all horsemen to be the most faulty, for horses when performing feats of speed are observed to extend the head in a horizontal line with that of the spinal column. A free extension of the head, corresponding to the horizontal position of the neck and body, enables the horse to breathe with freedom, whereas if the head be attached to the body after the perpendicular fashion, it is apt to obstruct free respiration by pressure on the larynx or first respiratory passage. We are well aware that some horsemen consider this faulty position to be the best, hence they endeavor by means of the check-rein, and other appliances to make all their horses carry their heads perpendicular, but these men must have observed how relieved a horse appears to be when his head is liberated from this uncomfortable position, which, under the circumstances, can not be the best. If a horse with a large head bears too hard on the bridle and tires the rider's hand, then the rider or owner is at fault; such a horse should never have been selected for the saddle, for to

ride with safety we require a high head and neck. A horse having these points would not be likely to tire the bridle hand.

The writer of the preceding quoted paragraph concludes thus, “A large-headed horse can not appear to any advantage unless he has a very long and well-turned neck.” This is more a matter of taste than of utility. Persons who purchase horses merely for their beauty are apt to make a sorry bargain. Others who select and pay less attention to the beautiful points, and more to enduring and physical qualities, are not so apt to get deceived. Many of the Pennsylvania horses used here in the trucking business have large heads and short necks, yet we hear no complaint in consequence.

Then again, a large head and very long and well-turned neck will not appear to any advantage unless affixed to a corresponding size and conformation of body and limbs. However, a horse may make up in utility, for all he lacks of beauty.

VALUE OF TAN-BARK ASHES.

Though tan-bark is much used for mulching plants, banking up houses, making paths, &c., considerable quantities of it are burned in many tanneries, where the spent bark is dried and used for fuel under the steam boilers. It has been an interesting question, with us, whether these ashes were valuable for agricultural purposes, or even for soap-making, as we suspected the soaking in the tanning process might remove the potash which is the most valuable as well as the most soluble ingredient in all ashes. During the past Summer, Mr. O. J. Hayes, of Essex Co., N. J., submitted to us for examination some samples of these ashes, and as no analysis of this substance had hitherto been made, we believe, we at once forwarded them to Prof. Johnson, of Yale College, requesting an analysis, which he has made, and the result is given in his letter below. By reference to the table, it will be seen that the ashes show less than three per cent (2.6) of potash and soda, while ordinary unleached oak and beech ashes contain more than three times this amount. The lime is not up to the average. In tables of analysis of unleached beech and oak ashes before us, the lime varies from 63 to 75 per cent. According to this analysis then, we may conclude, that while tan-bark ashes contain sufficient alkalies, (potash, soda and lime), to make them worth preserving and applying to such lands as require alkaline fertilizers, they rank considerably below ordinary wood ashes.—En.

To the Editor of the American Agriculturist.

The samples of the ash of spent tan-bark you had the kindness to send me, were duly received. I understand that both were of the same quality, except that one was fresh—just burned—while the other had been exposed during the last Winter, to the weather.

I have made a complete analysis of the fresh sample, with the following results:

Potash and Soda.....	2.60	Phosphoric acid.....	trace
Lime.....	51.32	Sulphuric acid.....	5.68
Magnesia.....	1.90	Chlorine.....	trace
Oxyd of iron and alumina.....	2.47	Silica (soluble).....	4.63
Oxyd of manganese....	1.05	Carbonic acid.....	26.46
		Coal, sand, and loss ..	5.92
			100.00

The composition of these ashes is such as warrants making trial of their fertilizing effects. The large quantity of lime they contain, as quick-lime and carbonate of lime, would alone render them of great value on many soils. They also contain 7 to 8 per cent of gypsum, which is often so eminently serviceable. The quantity of potash and soda is much more considerable than was to have been anticipated. Phosphoric acid has been nearly or quite removed from the tan-bark by washing.

The bark of trees, however, usually contains but very little of this ingredient.

Like every other fertilizer, the value of this must be ascertained by actual trial. The same results may be expected from it as from ordinary leached ashes.

Whether the soaking of the tan-bark so long in water separates any portion of alkalies or phosphates, does not appear from this analysis, as there exists, to my knowledge, no statement of the composition either of oak or hemlock bark with which to make a comparison.

SAMUEL W. JOHNSON.

YALE ANALYTICAL LABORATORY, }
New-Haven, Oct. 1857.

A QUESTION ABOUT MUCK.

Nathan D. Coffin, of Hancock Co., Ind., says he has plenty of straw, as well as muck on his farm, and inquires if it would not be better to use the straw as an absorbent for manure, and haul the muck directly to the field instead of taking it to the yard and then out, thus making double cartage.

If straw be very abundant for the yard, and the soil be a warm one, not greatly needing the immediate benefit of manure, the proposed plan would answer. But muck and all peaty substances are usually in a kind of pitchy or asphaltic condition, so that they resist the action of the air, and do not decay and yield up their elements readily, without being first subjected to the action of alkalies, (lime or ashes), or to the heating of the compost heap. Putting them into the yard where they will be mixed with the animal manures serve a double purpose; first, the heating of the manure decomposes the muck, swamp mud, leaves, &c., and fits them for plant food; while, second, these substances act as absorbents to retain the gasses and escaping elements of the more readily decaying animal manures. They are similar to straw in their composition and ultimate effects upon growing plants.

When muck or peat is entirely unneeded in the yard, owing to a superabundance of straw, the former may be dug out and piled up with a bushel of slaked lime to half a cord or more, thoroughly mixing it in. Left in this way a few weeks or months, it will become fitted for direct application and benefit to cultivated fields. In cold, wet or clay land, muck will often lie for years undecomposed. In warm, light soils it is more rapidly reduced, and therefore sooner available to plants, though not immediately so, except in the most favorable conditions of warmth, air and moisture. Every thing considered, it is generally better to cart it first to the yards and compost it with manure.

BONES IN THE MANURE HEAP.

Mr. G. C. Lyman, of Susquehanna County, Penn., referring to the article on page 227, upon dissolving bones, suggests that in the absence of sulphuric acid, which is often difficult to obtain, bones might be put into ashes to be dissolved, if sufficient muck be placed over the heap to absorb all escaping organic materials. We cannot speak from experience on this point, and we are not quite certain how far the bones would be crumbled or dissolved in the ashes when shut out from air. If the bones can be reduced by surrounding them with unleached ashes, and then covered over the whole with a coat of muck, say three feet or more in thickness, the plan would appear to be a good one. A little plaster mixed with the muck would be an improvement. Before using the materials, the dissolved bones—they be dissolved—should be thoroughly mixed

with the muck. We shall be pleased to have Mr. Lyman and others try the experiment and report the result.

ICE HOUSES.

Simply as a matter of economy an ice-house may well have a place on a majority of large farms, and two or three proprietors of smaller farms can readily unite in the construction and filling of one for common use. When butter and cheese are manufactured even on a limited scale, the advantages of ice in Summer are evident. Various articles of food and meats, bread, milk, butter, &c., are kept fresh so much longer in an ice-box or chest, that there is considerable saving of fuel required in hot weather for frequent cooking. Every one can estimate for himself the saving, and also the advantages of the cheap luxury in hot weather of cool drinks, fresh food, &c.

A CHEAP ICE ROOM.

An ice house is, after all, a cheap and easy built structure. The filling is done at a season when the cost of labor is but very trifling, and need scarcely be taken into account. We have heard of effective ice rooms constructed at an expense not exceeding five dollars. A correspondent of the "Country Gentleman" describes one which scarcely cost this sum. In the north-east corner of a shed he partitioned off a room eight feet square in the clear, using for the partition the cheapest rough boards. A row of joists was set up on the north and east sides, and boarded up to leave a vacant space of ten to twelve inches. On the other two sides two rows of joists were set up and boards nailed on, leaving a similar space between them. The space was filled with spent tan-bark. A loose floor was laid down and covered with a layer of loose straw. Pure, clear, hard ice was cut up with a saw into easily managed pieces, and packed closely in the room, leaving six inches between the ice and sides, which space was filled with saw-dust. Over the ice saw-dust was spread to the depth of a foot. It might be well to fill up to the roof with straw. He states that the whole cost of construction and filling did not exceed seven dollars. The family had used ice all Summer as freely as if there had been an unlimited supply, and there is evidently enough in store to last until the "new crop comes in."

AN ICE-HOUSE OF MODERATE EXPENSE.

We present, herewith, engravings of a convenient, ornamental, and comparatively cheap ice-house, which we find in "Allen's Rural Architecture."* We copy, by the publisher's permission, from this work, a portion of the author's description:

"The size may be twelve feet square, and from that up to any required extent. Less than twelve feet square would be too small for keeping ice well. The idea here given is simply the principle of construction. The posts should be full eight feet high above the ground to where the plate of the roof is attached. Mark out your ground the size you require for the house; then, commencing at one corner, dig a double set of holes opposite each other, one foot deep, and two-and-a-half feet apart, on each side of the intended building, say three feet equidistant, so that when the posts stand up they will present a double row, one-and-a-half feet apart. Then set in your posts, which should be of oak, chestnut, or some lasting wood, and pack the earth firmly around them. If the posts are sawed, they may be 4 by 6 inches in size, set edge-ways toward each other. If not sawed, they may

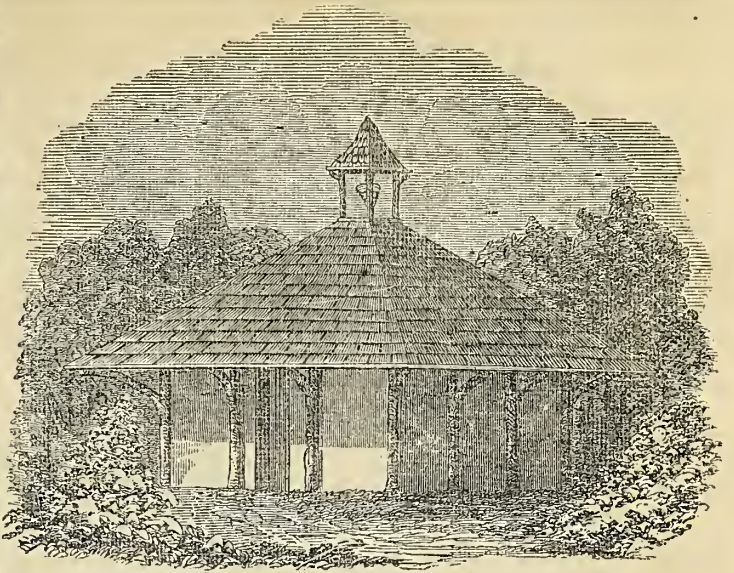
* This book, which we have frequently referred to, is, in our opinion, one of the best sources of information regarding the economical structure of rural buildings of all kinds, from the stately farm mansion down to the simplest hen-house, or pigsty. Published by A. O. Moore, of this City. Price \$1 25, at which price single copies can be procured and forwarded, post-paid, to any of our subscribers desiring it.

be round sticks cut from the woods, or split from the body of a tree, quartered—but sizable, so as to appear decent—and the insides facing each other as they stand up, lined to a surface to receive the planking. Of course, when the posts are set in the ground, they are to show a square form, or skeleton of what the building is to be when completed. When this is done, square off the top of each post to a level, all round; then frame, or spike on to each line of posts a plate, say six inches wide, and four to six inches deep, and stay the two plates together strongly, so as to form a double frame. Now, plank, or board up closely the inside of each line of posts, that the space between them shall be a fair surface. Cut out, or leave out a space for a door in the center of the side where you want it, two-and-a-half or three feet wide, and six-and-a-half feet high, and board up the inner partition sides of this opening, so as to form a door-casing on each side, that the space between the two lines of posts may be a continuous box all around. Then fill up this space between the posts with moist tan-bark, or saw-dust, well packed from the ground up to the plates; and the body of the house is inclosed, sun-proof, and air-proof, to guard the ice.

Now lay down, inside the building, some sticks—not much matter what, so that they be level—and on them lay loose planks or boards, for a floor. Cover this floor with a coating of straw, a foot thick, and it is ready to receive the ice.

For the roof, take common 3 by 4 joists, for rafters; or, in place of them, poles from the woods, long enough, in a pitch of full 35° from a horizontal line, to carry the roof at least four feet over the outside of the plates, and secure the rafters well, by pins or spikes, to them. Then board over and shingle it, leaving a small aperture at the top, through which run a small pipe, say eight inches in diameter—a stove-crook will do—for a ventilator. Then set in four little posts, say two feet high, as in the design, throw a little four-sided, pointed cap on to the top of these posts, and the roof is done. If you want to ornament the under side of the roof, in a rude way—and we would advise it—take some pieces of 3 by 4 scantling, such as were used for the roof, if the posts are of sawed stuff—if not, rough limbs of trees from the woods, to match the rough posts of the same kind, and fasten them to the posts and the under side of the roof, by way of brackets, or braces, as shown in the design.

When the ice is put into the house, a close floor of boards should be laid on joists, which rest on the plates loosely, so that this floor can be removed when putting in ice, and this covered five or six inches deep with tan, or saw-dust—straw will do, if the other cannot be had—and the inside arrangement is complete. Two doors should be attached to the opening, where the ice is put in and taken out; one on the inner side of the lining, and the other on the outer side, both opening out. Tan, saw-dust, or straw should also be placed on the top of the ice, when put in, so as to keep the air from it as much as possible; and as the ice is removed, it will settle down upon, and still preserve it. Care must be taken to have a drain under the floor of



ICE-HOUSE.



GROUND PLAN.

the house, to pass off the water which melts from the ice, as it would, if standing there, injure its keeping.

We have given considerable thought to this subject, and can devise no shape to the building more appropriate than this, nor one cheaper in construction.

WASPS.

In some parts of the Country two or three varieties of wasps are so numerous as to be a nuisance at least. A correspondent of an English paper, "The Field," recommends the use of spirits of turpentine, which he says will destroy the wasps without setting it on fire when poured into their nests or holes, though he recommends firing when there is no danger of burning objects near by. This can be applied in the day time, since the absent wasps when returning will dash into the flames and perish.

A Good Trap for wasps says the same writer, is a sugar-hogshead, with a few pounds of sugar left in it; place in it a milk-dish half full of water; put a lighted candle, one with a large coarse wick, in the middle of it; have a lid that you can clap on at any time to shut out the daylight; all, or nearly all, the wasps in the neighborhood will frequent this trap if you only give them a day or two to find it out. When you have some thousands in clap on the lid, and the wasps will naturally fly at the candle, and, singing their wings, fall into the water. I have killed a pailful in a day by this method. The greatest difficulty I found was to get a candle that could not be put out by the wasps flying into it. It will be necessary to get something which could not be put out by them. Of course it will not be necessary to light it till just before putting on the lid.

A PICTURE OF FARMING IN CENTRAL ILLINOIS

[We present below the first of a series of letters from an intelligent farmer, or 'Farmer Physician,' recently settled in Christian County, which lies but a little south of the geographical center of the Prairie State. During the past season we journeyed very nearly 2,500 miles in different parts of Illinois, and we came to the conclusion, that taking into account the very small proportion of waste land, the native richness of the soil, its ease of opening, the position of the State as respects markets, &c., Illinois is to be the empire Agricultural State. She has a strong rival "over the river" in Iowa, but has, to say the least, the advantage of being nearer to the Eastern seaboard—the great outlet for surplus agricultural products. Missouri will ultimately come up to lively competition with both Iowa and Illinois, but Illinois is bound to take the lead. While the sphere of the *Agriculturist* is essentially American, embracing the agriculture of our whole country, we shall deem it advantageous to all our readers, East as well as West, to devote special chapters to the agricultural features of those interesting regions known as the prairie lands.—ED.]

To the Editor of *American Agriculturist*.

As doubtless some of your numerous subscribers and readers may like to know the manner in which a prairie farm is opened and cultivated, I propose to give them herein an inkling of the same. The vast prairie region of Illinois was, before the era of railroads, as little cultivated and almost as sparsely tenanted as a desert, though not as unproductive. The building of the Illinois Central Railroad and its branch, and of the various other railroads now traversing the State in every direction, brought into market all the previously untilled or "wild" prairie lands—hitherto uncultivated, except near to large towns or rivers, because of the difficulty of getting the crops to market. Now settlers boldly locate themselves in the middle of large prairies, because they have, at almost any point chosen, convenient access to railroads wherewith to ship their produce.

Much diversity exists in the soil, situation and condition of the prairies—some being more productive than others, some wetter, some flat, and some rolling. The soil is generally a black, vegetable loam, rich in humus, sometimes lacking in some of the conditions necessary for particular crops, but usually sufficiently strong to produce successive grain crops for several years without much manifest deterioration.

The depth of the surface soil varies from six inches to three feet, underlain by various sub-soils—here, in Christian County, by yellowish brown clay, yellow clay, with sandy and rocky strata as you descend. During the month of April the grass begins to shoot, and in early Springs the "merrie month of May" displays a beautiful carpet of green, richly interspersed with flowers of every hue. As the season advances and the verdure increases, the flowers change, the early ones being superseded by others, taller than the first born, to correspond with the growth of grass, and the present month, (September), witnesses flowers taller than a man on horseback, and rich in color. Soon will come the wane when flowers and grass will brown and yield their life to the unmerciful hand of Jack Frost.

From April, if an early Spring, to the middle of July, is the season considered best for breaking up the native sod, because the growing grass soonest dies when turned under at this time. If plowed before this, the grass, unless plowed very deep, grows upwards through the inverted sod; if plowed later than this season it does not properly rot, and will be hard to cultivate the ensuing year. This is Sucker philosophy, partly right, and, I think, partly wrong. My own views I will give at a future period. The shallower the sod is turned the sooner does it rot. This sod is a

matted mass of grass and flower roots, with occasional patches of red root—a tough customer—and willow roots, the plowman's hate.

Freshly broken prairie is usually planted with corn, either dropped in every third furrow as plowed, or afterward by a hand-planter, an ax, or a pointed stick. It is also broken to lay until Fall seeding with wheat, by which time it is usually tolerably well rotted.

This prairie breaking is something of a job, and requires a good steel plow. Formerly, it was not deemed possible to break prairie with horses and small plows, but large plows and from four to eight yoke of oxen were thought requisite. It has since been found that 12-inch plows of peculiar construction, and two or three good horses, can do the same work as a 24-inch plow and five yoke of oxen. Breaking-plows for cattle, and sometimes the smaller ones for horses, are rigged with a long beam, an axle and two wheels, one to run in the furrow, of somewhat larger diameter than the other, which runs on the land. The beam works between two uprights, set in the axle, and is raised or lowered by a lever, one end of which is fastened to the beam near the clevis, the other rests on a support near the plow handles. I believe two or three good horses with a properly constructed plow will do more work than the ox teams, and better.

When the inverted sod is planted in corn, nothing more is done to the crop until it is harvested. If intended for wheat, the grain is sown on it in September, and harrowed in—very few harrowing the ground before sowing. I belong to the progressive school of agriculture, and have deviated from the old foggy, sucker mode of sowing wheat. My ground was well broken, and turned perfectly flat, each furrow slice fitting down next its neighbor like floor planks. I made myself a heavy double harrow, four bars in each half, and twenty teeth in each half, or forty teeth in the whole harrow. It was run twice the same way the land was broken. "Why, doctor! what are you going to the trouble of harrowing your land before seeding for?" ask the old Suckers. "I am going to drill in my wheat, gentlemen." "Oh! nonsense, it is impossible." After the harrowing I drilled in one bushel of wheat to the acre, a rain immediately after brought it up at once, and, September 1st, shone on as beautiful a field of green as I ever saw. "Well I declare!" says old Sucker, "who ever saw such a crop on sod; why, doctor, it is good for forty bushels an acre if for one; but you sowed too much seed." "Not so, old friend, only one bushel to the acre, but every grain grows, and all is put at a uniform depth. It is not from half an inch to six deep in the ground, or lying uncovered on top, but every grain well covered about an inch-and-a-half deep."

So much for this deviation from old foggy farming here. My next innovation will be, plowing in October for Spring wheat and corn.

Houses on the prairies are generally built of wood, and cost from two hundred up to a thousand dollars; for the latter sum an excellent house can be built. Water is found at from ten to thirty feet, very good, usually hard. Fencing is of various kinds, as may suit the owner's fancy or location, hedge and ditch, post and board, wire, or worm fence of rails.

Lumber costs at the mills from \$17 to \$20 per thousand feet. Posts, split, seven cents a piece. Oxen are worth \$75, and superior yokes \$125. Horses from \$100 to \$150 each. The second year a prairie farm can be plowed with two horses very easily, the sod having well rotted, and the soil being loose and light. Corn is planted in various ways, to suit the owner's fancy, some in drills, some in hills, generally too thick in

the hill. Few, if any of the farmers thin out their corn after planting—they say for want of time. Corn yields from forty to eighty bushels per acre. It is gathered in the Fall, Winter, and sometimes not till the ensuing Spring, and put into rail pens to be shucked, (husked), and sold or fed to hogs as the case may be. Wheat is sown at the rate of a bushel and a half per acre, carelessly put in by most farmers here, and about as much cheat sown as wheat. The yield is from fifteen to forty bushels an acre. Most of the farmers hereabouts, within a range of fifty miles, with whose opinions I have become acquainted, believe that wheat will turn to chaff. They cite numerous examples, and certain modes of testing, to prove their conclusions just. One of these experiments is to lay a board on the growing wheat when several inches high, and after it has lain sufficiently long for the wheat to turn yellow underneath, remove the latter, and let the wheat grow, marking the spot where the board was placed. The spot in harvest will be found all cheat and no wheat. The wheat must be perfectly clean before sowing, and the spot chosen free from cheat. This is asserted to be a certain recipe for the transmutation of wheat to cheat.

It may be mentioned in connection with this current opinion here, that I have not yet found a farmer who takes an agricultural paper.

Wheat is generally cut by machines, stacked, and thrashed in the field, the grain sold at the nearest market, and the straw burned. Oats do not do well until a few years after the land has been in cultivation, as they grow too much to straw. Barley does well, but hitherto has not been much cultivated. Potatoes are a good crop.

Trees grow well in the prairie, and settlers plant out different varieties around their dwellings, mostly fruit trees, which do not do well on the bleak prairies. Small fruits flourish very well, but should have some sand about their roots or stems, as they otherwise make more leaves than fruit. Vegetables of all kinds are prolific here, the melon tribe wonderfully so.

Plowing by contract costs \$2 50 to \$3 per acre, and many thousand acres are thus broken up.

Any man who wants to commence farming on the prairies must be possessed of means and energy, and not expect to make a fortune too easy. A section of land requires about \$5,000 cash to commence profitably, while it will require all of the half of that sum to farm a quarter section as it should be done. I include cost of land, house, fencing, animals, implements, &c. I need not make the estimates, each one can figure for himself.

But little grass is as yet raised for hay. The ease with which the land is cultivated tends to make slovenly farmers. There is a want of care and neatness perceptible on most prairie farms. There is also a want of education among the children of farmers here. The little they do receive is but superficial, and they lack all necessary tuition having any bearing upon their occupation.

County Agricultural Societies exist, and these may, properly managed, do much good, but there is a great need of agricultural newspapers, the monitors and assistants to all good farmers.

There is plenty of fine land here yet open to settlers, at various prices—and improved farms also to be purchased. A new class of farmers are coming in, and things will begin to change I hope for the better. I shall endeavor to set an example for old foggyism to profit by. I hope to stir up the "natives" to the value of agricultural periodicals, and try to make them "take the papers."

H. H.

PRairie Cottage, near TACUSA,
Christian Co., Ill., Sept. 18, 1857.

AN ILLINOIS FARMER'S
EXPERIENCE.

King Philip Corn, Dent Corn, Sugar Cane, Poland Oats, Onions, Beans, Cabbages, Pumpkins, &c., or what has been grown on twelve acres of prairie land.

In a letter dated September 21st, from Mr. L. Martin, of Leland, LaSalle County, seventy or eighty miles south-west of Chicago, we find some of the details of his experience in farming in a small way. A few extracts from his letter may be suggestive, and help make up a picture of the Western agriculturist's daily operations. They will also show what can be done even on a few acres. We could point to not a few men in New-York, and elsewhere, not long since reputed to be worth tens of thousands, who would to-day, be rich did they own the twelve acres described below, with what has grown upon them the past season—Ed.

"...I received the package of King Phillip corn you sent me, and liking its appearance, purchased a peck more of the seed which I chanced to find in Albany. I got it home only in time to plant on the third day of June. In eight weeks from planting we had corn fit to boil and we used freely all we wished for roasting and boiling. I have now harvested from the peck of seed, on $\frac{3}{4}$ acre, sixty bushels of sorted seed ears, and twenty bushels of smaller ears for other uses. I cut and shocked it on the 24th of August, *only eighty-two days after planting.* Last week I had two bushels ground fine, and I pronounce it the sweetest and best corn I have ever used. It will, I think, be the best seed corn we have raised in the West. If the ground is broken before the last of June we can get a good sound crop... It does not have to grow so large a stalk as to hinder the early maturity of a good large ear. A neighbor seeing it in the field, remarked that the stalks were too small, to which my boy, a lad of nine years, replied that, 'it was not the stalks we were after, but the ears.'... My Sugar Cane was up only two inches, when that heavy June rain covered it over with water for a week or more, but it came out bright and is now 13 to 14 feet in height... My Poland Oats, the hens nearly harvested for me, but I have saved a quart of seed from my Agriculturist letter package.

"...I have but a small farm, but have secured some good crops. On 12 acres, broken up last year, I have this year raised: 4 acres of Dent corn; $\frac{3}{4}$ acre of King Phillip corn; 2 acres of carrots and onions, *in alternate rows*; $\frac{3}{4}$ acre of onions sown broad-cast; 1 acre of beans, from which I harvested 21 bushels; 2 acres of large Bergen cabbages, on which there are now between 10,000 and 11,000 large heads very fine; and 1 acre of potatoes. On the remaining acre I have peas, melons, cucumbers, &c., while over the whole ground is scattered here and there, somewhat promiscuously, pumpkins, squashes, turnips, &c., so that not a foot of the 12 acres lies idle... The $\frac{3}{4}$ acre of broad-cast onions yielded a large crop but it required a good deal of work to keep them clean when thus sown... You will of course know that myself and 9-year-old boy have been busy with our team to keep the weeds in due subjection, and especially so as I had my leg broken in January, in blasting logs for fence posts. Indeed, owing to this accident we could not even fence the plot until after the crops were up, and I had to hire a man to do the first plowing..."

The soul needs a certain amount of intellectual enjoyment, to give it strength adequate for the daily struggle in which it is involved.

ANOTHER
CORN HUSKER.

On page 198, (Sept. No.) we presented an illustration of a Corn Husker, terming it "the latest and probably the best invention for the purpose." In this it appears we were at least partly in error, as we have since been presented with an engraving of another machine, patented this present year, by Dr. E. S. Hohnes, of Lockport, Niagara Co., N.Y., and called 'Holmes' Automatic Corn Husker.' We cannot, as yet, speak from personal observation as to its working "faculty," but as in the former case,

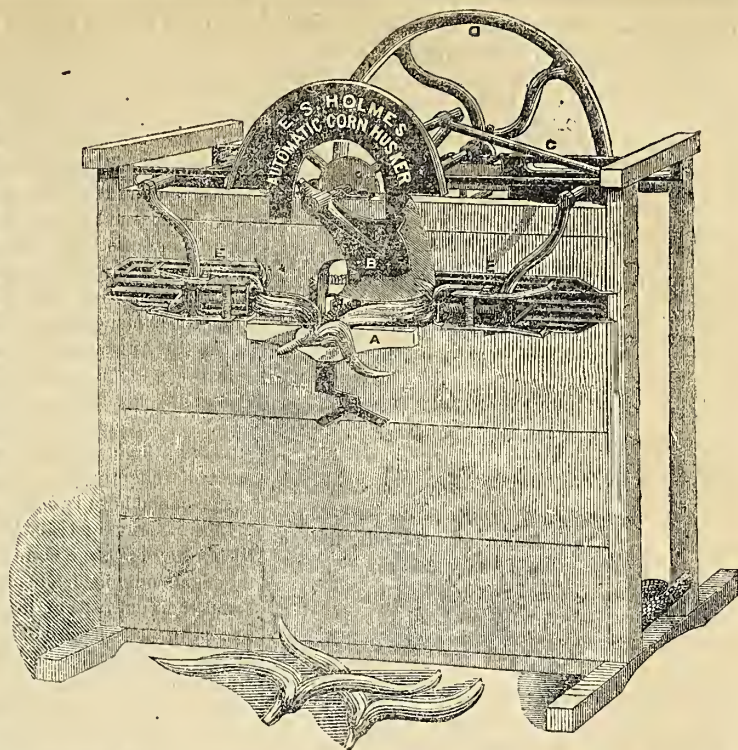
we introduce an illustration and brief description to keep our readers posted in regard to what is being done to mitigate the tedious labor of husking corn. The machine, as here shown in operation, has a pair of iron hands with fingers, which by turning the crank are made to approach each other, and close so as to clasp the husks and tear them apart. The ear is at the same time caught by clamps, drawn in, and the butt cut off by the knife B. The husked ear is then dropped on the other side of the machine. It is claimed that the corn can be husked from the "shock," and also that the machine may be placed in the *side* of a wagon-box, and driven through a field of tall standing corn, with a boy driving the team and turning the crank, and a man to bend down the stalks and present them to the fingers, when they will be husked, clipped from the stalk and dropped in the wagon—that is to say, it husks, picks and loads the corn at one operation. For particular and definite information we must refer those interested to the patentee as above.

THE MARKET GARDENERS AND
FARMERS OF LONG ISLAND.

Going to Market—The Wagons—Raising Potatoes—Seventy-five dollars worth of manure to the acre—Mode of culture, &c., described—Potato Rot.

To the Editor of the American Agriculturist.

As you and I chanced to see one of those long lines of market wagons that daily and nightly pass over the road to New-York City, you requested me to note down for your readers some account of their operations, and I will comply with the request. First, of the marketing. If we go over to the west side of the city, to Washington Market, about 9 o'clock *in the evening*, we shall find most of these wagons there, with the horses unhitched, quietly eating, and their owners are whiling away their time, as best they can, in an occasional nap, perhaps. Most of them have come thus early, in part to secure a good position, while others are arriving at all times of the night. Soon after two o'clock in the morning business commences, and they generally have their loads sold out and are ready to start for home by daylight, before the citizens are stirring, or the streets filled



with bustling vehicles. Arriving at home for breakfast the market men resign their teams to the "hands," and having finished their repast they sleep till 2 o'clock, while another load is preparing and are ready to start again by 3 o'clock, P. M.; the time of starting of course depends upon the distance from the city. Such is the life of the mass of those who supply the almost incredible amount of produce brought to the New-York Markets in wagons. This is particularly the case with market gardeners, and those growing potatoes on a large scale for the months of August and September. The market wagons, by the way, are made strong and hung on springs. They carry forty baskets or more at a load, and cost \$150 to \$200 each. We find that potatoes, vegetables and fruit carried to market in nice covered spring wagons, free from dust and bruises, sell quicker, and enough higher to pay for the extra trouble and expense. At daylight or before, the wholesale dealers, or middle men, of the market are all astir, disposing of their potatoes, turnips, cabbages, onions, parsneps, squashes, celery, poultry, &c., &c., to the thousands of hucksters, provision dealers, and corner grocery men scattered through the city, who in turn are early ready to retail to their customers for breakfast or dinner.

Early potatoes are succeeded by wheat, and where ten acres or more are planted, it is necessary to hurry up the digging and marketing, to get the ground ready in season for sowing, as few early potatoes are stored in the cellar. Nearly all the potatoes grown here are the Mercers, for though many new varieties have been introduced, these as yet hold the supremacy. The Carters, though a fine variety in the place where they originated, do not maintain their good reputation with us. For very early marketing the Junes are in high estimation, while the Peach Blows promise well for those who can allow them time to mature.

As soon as the corn crop is secured, the teams, with less sightly wagons, are set to drawing manure from the various landings, for the succeeding Spring planting. This is brought from the city in boats, sloops, and by railroad. No matter how cold the weather or high the wind, if the roads are at all passable the teams are upon them. Those

unacquainted with our operations can scarcely credit a true statement of the enormous sums paid for manure on Long-Island, and they will almost doubt my statement that many farmers cultivating scarcely 200 acres, pay a thousand dollars or more for manure in a single year. They calculate to put on manure enough to produce a good crop of potatoes to be followed by wheat and grass without additional manure.

Let us look at the cost of this manure. There is applied to each acre about 75 loads of purchased manure, costing at the landings, 62½ cents per cart load, of only 14 bushels each and small at that. This is over \$46. Then in addition, about 20 wagon loads per acre of home-made manure is applied, worth say \$1 50 per load, making \$30 more, or in all say \$75 per acre for manure alone. Now suppose the ground produces 100 bushels of potatoes per acre at 87 cents per bushel—which is about the average price at the New-York Markets, for several years past—how stands the account? If potatoes enough are sold to pay for the manure, its cost comes back in less than a year, and the following wheat crop and succeeding grass crops furnish a pretty large margin for profit.

Different modes of planting potatoes are practiced, but all plant as early as possible, and on mellow ground. Some first spread both fine and coarse manure evenly over the field, and then drop the potatoes in every third furrow, when plowing, raking in the manure at the same time. Others plow the manure under first, then mark out drills with a light plow, drop the potatoes into this and cover by throwing in a furrow from each side. This makes a high ridge, but as soon as the potato sprouts begin to show themselves a light harrow, with a quantity of bushes underneath, is run over, which levels the ground, leaving it light, and what is more important, if done on a dry day, this operation destroys the first prolific crop of weeds and greatly facilitates future labor. In all methods of potato culture, one or two harrowings in dry weather, before the plants have made much growth, is a great labor saving operation.

A cultivator run between the rows as soon as they are a few inches high, is considered of more service than a plow; indeed some do not plow at all, to avoid covering the hills too deeply. We are anxiously hoping some implement will soon be introduced to supercede those now in use, and that the hoe, and the potato fork in so general vogue will become as obsolete as the scythe and flail.

Perhaps no portion of the country is so free from rot as this part of Long-Island, and the culture is greatly stimulated by the ruling high prices. In seasons like the present, we find that potatoes have rotted badly on land highly cultivated for many years, and treated with fresh unfermented manure; but where the soil is light, as on and around Hempstead Plains, they are nearly free from decay. Can any of your philosophers tell us the cause of this? It is a fact—the why we can not tell. We find of no avail all our doctoring with salt, lime, guano, cutting off tops, changing to seed from other localities, &c. S.

NORTH HEMPSTEAD, Oct., 1857.

AGRICULTURAL STATISTICS OF AUSTRIA.—The following statistics are given: 6,000,000 cows; 3,000,000 oxen and bulls. There is produced annually 6,666,666,666 quarts of milk; 200,000,000 pounds of cheese; 60,000,000 pounds of wool, of which 25,000,000 pounds are sent abroad, and 540,000,000 gallons of wine.

Most men employ their first years so as to make their last miserable.

OSAGE ORANGE HEDGES.

THE OTHER SIDE—PRACTICAL DETAILS OF THE MODE OF CULTIVATION.

To the Editor of the American Agriculturist:

The merits of this plant and the interests of the public, demand that some one should comply with your request in the August *Agriculturist*, for the experiences of others. I am surprised at the lack of confidence in the Osage Orange as a hedge plant, both on the part of yourself and others, when the evidences of its great value are before us. In the August number, after detailing your observations, mainly at the West, against this plant, you called for facts—not opinions—from those who have had considerable experience with it, and are not in the least interested in the sale of plants, and consequently have no ax to grind. I am one of these, and here is my experience.

In the Spring of 1849, I set out (in Mason Co., Ill.) a row of Osage Orange, half a mile in length, the plants nine inches apart. Not knowing much about their cultivation, little was done with them except to keep the ground clean, until the Spring of 1851, when I whipped down the entire line, after which the plants came up very thickly. (For the information of the inexperienced, I will explain that "whipping down" is performed early in the Spring, before the plants begin to bud, as follows: Take a large knife and beginning at one end of the hedge, hack each plant about half off, close to the ground; then turn the tops down into a little trench dug for that purpose in the row between the plants, and cover entirely with 1½ inches of well pulverized earth. Treated in this way, each bud on the plants will sprout through the ground and become a plant of itself, and the old plants bent down will turn to roots.)

The next Spring (1852) I repeated the process of whipping down, and this time they came up much thicker than before. I think, however, that one whipping is sufficient, unless there should be vacancies, in which case these should be supplied with good plants, which should also be whipped down. By this means the hedge is made very thick at the base, an important point, especially where hogs are to be raised.

The next process was to commence at the corner and bind down the plants at the end of the row, and then "wattle" in the whole row, which made it strong and substantial.

By the above plan, I obtained a good hedge, in the open prairie; and I can but believe this plant would succeed well, generally, if this method of tending it were adopted. I believe the majority of failures to result from negligence on the part of the cultivator. Sometimes, however the cold weather injures them, but even this (as I have noticed) is generally where they have not been well tended. Some people seem to think that all they have to do, is to furnish the plants, and set them out, and then Providence will make the hedge; and because this does not suffice they tell the public that it is worthless. In many places in this and adjoining counties, I find hedges,—or rather apologies for hedges,—which by proper cultivation might have been made valuable; but as they are, they only give evidence of the unfaithfulness of the owners. Some are partially cultivated for a year or two, then turned out without further attention. Others are placed on the embankments of ditches; in such cases the owner need not expect them to be of any service. I would much sooner think of placing them in the bottom of the ditch than on top, for then they would have a better opportunity for receiving water by the rains, which they can not get, when on top of the embankment of the ditch; and,

by the way, water is a *very essential consideration* with the hedge.

Judging then Mr. Editor, from the manner in which this plant has been treated, or rather not been treated, I am not surprised that you receive "conflicting reports in relation to it." But I think the conclusion that the plant is of no value because some have failed, is incorrect. On the contrary, the success of others demonstrates the practicability of using it for hedging purposes.

It does not require a very great outlay, nor extensive labor to make a hedge of the Osage Orange, though a reasonable amount of care will be amply repaid in after years. I will give you a brief estimate of its cost per mile, which if not exactly correct, is very nearly so.

Cost of plants, best quality.....	\$26 50
Setting them out.....	8 00
Cultivating.....	5 00
Whipping down and cultivation 2nd year.....	15 00
Shearing " " 3d " " " "	6 00
" " " 4th " " " "	6 00

Total.....\$56 50

Here then is a mile of hedge fence at a cost of a little less than sixty-dollars. In the above estimate, I have calculated that the plants should be twelve inches apart, which I think is sufficiently close where whipping down is practiced. Some, however, prefer setting them nearer, in which case the cost of course, would be more. In order to keep the hedge in good shape, it is necessary to shear it every year, after it has attained its growth; this however, will not require much more time than is usually spent in repairing rail fences. A common brier scythe is frequently used, and a man with one of these can generally shear from one-half to three-fourths, or even a mile per day. The time of shearing is of some importance, also, since when it is done late in the season, the young shoots will be injured. I prefer attending to this work in the early part of June. Early shearing and thorough cultivation are important to the hedge in order that it may thrive well, and stand the Winter well.

The soil best adapted to the Osage Orange, is a loose, rich, damp, or even wet soil, if there is no water standing on it. I have, however, seen it flourish on tolerably sandy soil. It may be seen growing in its native forest, along the Trinity River (Texas), where the land is quite wet at times, and frequently overflowed. It usually grows well where corn does.

In point of beauty, I think it superior to either wood or iron fences. Where a complete hedge is made of it, the foliage is so thick that it can not be seen through.

I have never seen a decayed Osage Orange tree in my life. In the above mentioned bottoms, full grown Osage Orange trees may be seen, some of them three feet in diameter, which had sprouted from the roots of the original stock, while the latter, though killed while small, three or four inches in diameter—is yet, to all appearance, perfectly sound.

A correspondent in the July *Agriculturist*, (page 164) inquires "if it would not do to drill the seed in the row where the hedge is intended to stand." This might do, but the object in pursuing the usual method is to have them of uniform size and thickness in the row. I have never yet found it necessary to leave twenty feet of land on each side of the row, as a citizen of this State formerly said, but I find that from five to eight feet is sufficient.

I have thus given you the results of my experience and observation concerning the Osage Orange. I will not weary your readers with my mode of managing it, for it would be folly to give one set of rules for all sections of the Union. What suggestions I have made concerning it, are founded on my knowledge of it in this State only:

and are perhaps not so well suited to other portions of the country. I have full faith in the plant, for hedging purposes; and think others will have, too, when they become fully acquainted with it. I am glad to see that many are waking up and finding out its true value. Many are trying it, and succeeding finely. Good hedges may be seen in Logan, Morgan, Menard, McLean, and other counties of this State. Out of seven hedges I saw, (in two counties,) that were much exposed, only one was injured by the Winter; and that gave signs of having been badly treated.

JNO. A. KNOX

WALKER'S GROVE, MASON COUNTY, ILL.

REMARKS.—We thank Mr. KNOX, for his defence of the plant, and especially for his particular directions regarding cultivation. It should be borne in mind, however, that Mason County, Ill., is in about the latitude of 40°, which is the parallel of Philadelphia. A large portion of the prairie country of Illinois and Iowa, where hedges are most needed, are north of that latitude. We think, moreover, that the experience of others, no further north than 40°, proved that the Osage Orange would not endure cold like that of the past two Winters. Let us have full returns on this point. In the hands of such skillful men as Mr. K. appears to be, the trouble of planting and annual cultivation is less than we have estimated it for the general mass of farmers.

FURTHER ON THE OSAGE ORANGE.

Since putting the above article in type, we have had sundry notes on the same topic, and we find most of the journals in Northern Illinois, Iowa and Wisconsin, are pretty unanimous in a want of faith in the *hardiness* of the Osage Orange. The "Spirit of the Agricultural Press," published in Champaign County, Eastern Illinois, 40° north latitude, says:

"About four years ago the Illinois Central Railroad Company contracted with an Ohio firm, for building a hedge, on each side of its line, from Chicago south, 75 miles nearly, making in all 150 miles of hedge, which was to fence the line. In the course of two or three years the Hedge Company set from 30 to 50 miles, and then abandoned the job, and the hedge remains as they left it—a shabby piece of business. We are of opinion that the Osage Orange hedge will not, for at least 10 years to come, prove a fence for Illinois prairies. Carefully cultivated, that is, hoed three or four times a year, cut down careful yearly, and fenced, and protected from prairie fires, the Osage Orange makes a fence, which for strength, beauty and durability, cannot be matched or exceeded. If left without cultivation, its failure to make a fence, or even a respectable growth, is certain. If properly cultivated we should have no fears of killing by frost south of 41°—north of that line its fate would be doubtful. A good fence with posts 8 feet apart, and 5 boards high, costs our farmers from \$1 to \$1 25 per rod. An Osage Orange Hedge will cost twice that sum before it will be fit to turn stock—not reckoning the cost of the fences you have to make to fence the fence."

THE OSAGE ORANGE IN LAW.

The Ottawa Free Trader, in La Salle County, (latitude 41° to 41½°) refers to trouble between the farmers thereabouts and the planters of Osage Orange hedges. A farmer in that county, on the south side of the Illinois River, contracted with one of the hedge companies to plant and take care of a hedge for five years, he to pay three-

tenths the first year, two-tenths the second year, and so on. The company planted the hedge a year ago last Spring, receiving the first payment. Last Winter the hedge was killed out, scarcely a plant surviving. The past Spring the company reset the hedge and demanded the second payment; but the farmer claimed that inasmuch as the hedge was totally killed last Winter, the resetting this year must count as the *first* setting, for which he had already paid. He non-suited the company, but it was on a technical point only, so that there was no decision on the merits of the question, which is to have a hearing in the Circuit Court. There are many farmers in Illinois in a similar condition to the one referred to above, and we shall look with considerable interest for the final decision. We have had some *experience* of the attempts of large companies to impose upon individual farmers, and know how to sympathize with the latter. We have a very vivid recollection of being "sued" for \$30 for a Fanning Mill, set down on the farm "for trial," against our wishes, and almost against even our permission. We also remember the chop-fallen look of the agent of the "Fanning Mill Company," as, at the end of the suit, he paid his own costs, took away the mill, and paid us *five dollars and fifty cents for its storage*.

TIMOTHY BUNKER, ESQ., ON A JOURNEY.

His views of Railroads—Farm Improvements—Sand Barrens—Swamps—Sorghum.

MR. EDITOR.—I do not know but you have thought that my letters to your paper have "gin out," seeing that I did not write anything the past two months. But the fact was, I have been off to see what was going on in the world, outside of my own farm. You see there are some people up here that think Hookertown is in the centre of the world exactly, and they haven't the least idea but what the whole world turns round on our axis. In fact they believe that the north pole runs straight through our meeting-house steeple, and what can't be learned in our parish, is not worth knowing. Ned Bottom, a man of seventy, was never ten miles from home, and never saw a steamboat nor a locomotive. It was only last night that he was bragging about it, as if it was something to be proud of. "He had never been caught in one of those man-traps. Not he!"

I suppose it is a fact, that a good many people get hurt on the railroads, but I guess not so many in proportion to the travel as are injured in the old-fashioned way of horse and carriage journeying. I cannot see what Providence has suffered such things to be invented for, unless he designs folks should use them to find out what the rest of the world is made of, and what other people are doing. Our minister preached a sermon a while ago about "Many shall run to and fro, and knowledge shall be increased," and he thought the day of the fulfillment of this prophecy had come. Now I suppose I don't hear any too much of sermons, and practice altogether too little. But I heard the whole of this, and thought I would fulfill my part of the prophecy, and started off in the cars, with my wife, the same week.

We first went up to Uncle Philip Scranton's, a brother of Sally's, who lives in Farmdale, over east of Hookertown. Connecticut, you know, is all cut up into railroads, and has more track to the square mile than any other State in the Union. It is wonderful to see the influence these railroads have had upon the farms, wherever I have traveled. Almost every farmer lives within

sound of the whistle, and has a ready market for all he can raise, at the depot or nearest village. Instead of going off to Providence or Boston, a week's journey, to sell his cheese, butter, and poultry, an hour's ride in the morning brings him to a market. He loses little time and gets a higher price. This stimulates production, and it is wonderful to see the rocky lands, and the swamps that have been brought under cultivation to meet the increased demand for farm crops.

Uncle Philip is a farmer of the old school, but keeps up with the times better than a good many young men. He used to take the old New-England Farmer forty years ago, and got a good many ideas from Fessenden and others, who sought to improve farming in those days. You can see where those ideas have been bearing fruit on his farm ever since. He reclaimed a swamp by ditching, bogging, and covering with gravel, thirty years ago, and it bears near three tons of hay to the acre now.

He has found that it pays to clear up rocky fields, so rocky that most lazy men get discouraged. He has worked up these rocks into heavy stone walls, with a handsome face, and well capped. He finds these cleared rocky lands just the spot for orchards, and some of the finest trees he has are upon these reclaimed pastures. It is astonishing to see what a sight of work a man can do in a life-time, and what a beautiful homestead he can make of rough barren acres.

He has a nice garden full of fine vegetables, which are now in their glory. Up in one corner there is a lot of bee-hives, full of music and honey, setting the owner a good example in the way of industry, and rewarding him for his care with a bountiful supply of well-filled comb. All around the wall he has fruit trees and grape vines, which are now loaded with fruit.

I found a lot of your Sugar Cane up here, and indeed I have seen it all through the State where I have traveled. One farmer, who had a large lot, was going to run it through his cider mill to crush the canes, and thought it would answer all the purpose of a sugar-mill. Uncle Philip was trying his for soiling, and found it to work first-rate. He sowed sweet corn along side of it, both in drills, and found that the cane gave the most fodder, and that the cows would eat it the quickest. He says there is almost no end to the amount of stock a man can Summer, if he will only sow corn or sorghum. He thinks he gets a quarter more milk from his cows for this daily fodder. He feeds only at noon, every day. He thinks this is the best time, because the cows have all the morning to eat grass, and then the new kind of food offered at noon induces them to eat more. The more food you can induce a cow to eat and digest, the more milk you will get, and the more profit you will find in keeping her. This is one of his maxims, and I guess he is right. His stock is a mixture of grade Devons and grade Durhams. He averages about three hundred pounds of cheese to the cow, every year.

Another of Uncle Philip's experiments is reclaiming a sand barren. He had about six acres of such poor sandy land that nothing would grow on it. It was not worth the taxes paid on it. He has put on muck and stable manure in such quantities, that it will now yield forty bushels of corn to the acre. I find he has a great idea of muck, as all the farmers have in this region.

In-doors, Uncle Philip's wife manages things quite as well as he does upon the farm. The butter and cheese are well made, and the house is well kept. I wish the Tribune man, that told such stories about country cooking, could have set at her table for a week, as we did. The coffee and tea were enough sight better than I

ever found in your city, and the bread, meat, and vegetables, were all that an epicure could desire.

I had no idea, when I stopped writing, that so many of your city folks was a going to follow my example, and *suspend*. I shall have to be more careful of my conduct.

Yours to command,
TIMOTHY BUNKER, ESQ.
Hookertown, Conn., October 15th, 1857.

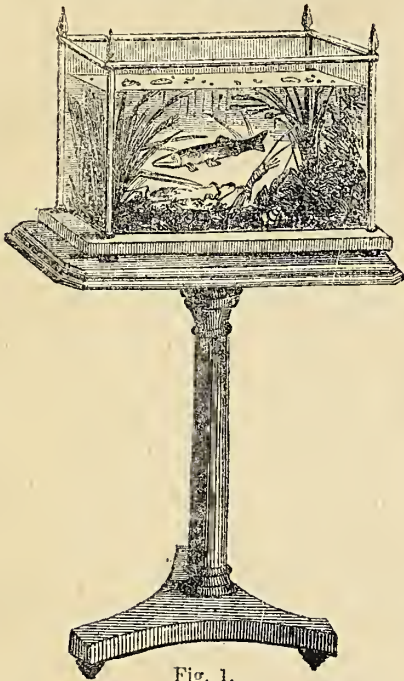


Fig. 1.

THE AQUARIUM.
"A NEW PLEASURE."

Though the *chief* aim of this journal is, to collect and disseminate information referring directly to the practical labors of the field, the garden, and the in-door operations of the rural home, yet, as we have now more room, a small portion of our pages may be appropriately devoted to those branches of the fine arts in which every lover of nature has a direct or indirect interest. In our last number, at page 229, we introduced descriptions and illustrations of several ornamental structures for the garden and lawn or yard, and we have more of them in course of preparation. We now have the pleasure of presenting to our readers some information on a topic of intense interest, which will be new to most, if not all, since, from its recent development, but little is known on the subject in this country, or even abroad, though a very lively interest is just now awakened in England, where the first discoveries have been made within six or eight years.

The cut, above, represents a simple glass box standing upon a common table, in which are a variety of plants, fishes; and small animals. What is of most interest, is the fact that these plants and animals are so situated that they will live and flourish for years, in the same limited cage, if such we may call it, and that, too, *without any change of the water* in which they dwell. And this remarkable condition is brought about by the simple application of one of those beautiful laws which seem to govern a wise Providence in the arrangement of the whole animal and vegetable creation of our earth. When we come to understand this, we can but have increasing wonder, and admiration of the infinite wisdom and skill of Him who made, and governs, and upholds all things. But let us study our glass water-box and understand what there is particularly curious about it.

It is called an *Aquarium*, which signifies simply a water-tank of any shape, for rearing water growing plants. This might, perhaps, be more properly named an *aqua-vivarium*, or living water-tank, as it is designed both for animals and for plants. Most persons have seen the common glass globes containing the yellow gold-fish, but those who have tried to keep them know by experience, that it is next to impossible to preserve the fish alive without the most careful attention. To forget or neglect a daily change of water soon results in loss of the fish. The new discoveries will enable us to keep in our houses, or gardens, all the smaller varieties of fresh and sea-water animals, without this constant attention. Artificial lakes, ponds and miniature streams can be constructed at will, and we expect soon to see, even in far inland towns, actual representatives of the bottoms, not only of fresh water rivers, lakes and ponds, but of the bed of the ocean itself. We will not stop now to speak of the intense interest connected with such living, but ever changing pictures of animal life, pictures which no painter's pencil can ever imitate, but we will endeavor to explain in plain language the principles involved in the construction of the Aquarium.

Plants and fishes need to *breathe* as much as do land animals. Fishes get their air from water. If we boil water, this expels the air, and a fish put into water just boiled will very soon die for want of *air*. All animated beings, whether in or out of water, require the same kind of air as human beings, to support life. Plants require a different kind of air.

If by the aid of Chemistry we examine the air we breathe, we shall find that each little particle of it is made up of three atoms. Two of these

are alike and are called *Nitrogen*. The other is called *Oxygen*. We may suppose them put together thus: NON. But it is only the oxygen, O, that we need in breathing; and so it is with the fishes and other water animals.

When we take air into our lungs, it comes in contact with the blood, and it finds there little particles of another substance, derived from the food we eat, and called *carbon*. The oxygen leaves the nitrogen in the air, and two atoms of it unite with one of the carbon, and form *carbonic acid*, OCO, so that two particles of air, NON, NON, going into the lungs when drawing in the breath come out thus N, N, N, N and OCO, that is, it brings out a particle of carbon, C. Precisely the same change takes place in the lungs or gills of a fish. The fish, however, may find the oxygen, O, in the water without the nitrogen, N. This carbonic acid, OCO, which comes from the lungs, is a poisonous substance, so to speak, and a person or animal confined in a small space, where it would be necessary to breathe over the carbonic acid thrown out from the lungs or gills, would soon be suffocated.

Now let us see how *plants* breathe. On the leaves, and often on the bark, are myriads of little pores or holes. These draw in precisely the bad air thrown out from the lungs of animals. That is the carbonic acid, OCO. The plant takes away the carbon C, and stores it in its cells, as food to increase its growth, while it sends back into the atmosphere or into the water, the oxygen O, O, which it does not need. Here then we see that a person can go into a very small room and live a long time there, if the room be supplied with a large number of plants, because when he takes in air and sends out carbonic acid into



Fig. 2.

DESIGN FOR PLANTING A CIRCULAR AQUARIUM WITH ARUM (RICHARDSIA), SUNDEW FORGET-ME-NOT ETC.



Fig. 3.

1 and 2. The Common Sticklebacks (*Gasterosteus trachurus* and *Levurus*) and their Nests.
 3. The Caddis Worm. 4. The Marsh Snail. 5. The Water Scorpion.

the room, the plants take in the carbonic acid and send out pure oxygen again. (It should be stated here, that the plants only send out oxygen during daylight, so that while plants are healthful in the day time, they are not so in a room occupied at night.)

It was the application of the above principles which led to the discovery of the *Aquarium*, or *aqua-vivarium*. Fishes, or other water animals, put into a confined portion of water, after a time, use up all the oxygen it contains, and replace it with poisonous carbonic acid, so that fresh water containing new supplies of air must be given to them. Sometimes all the fishes in a small pond, without plants, will be killed during winter, because the ice on the surface prevents the access of air. They are often seen to rush to a hole cut through the ice, in order to get a draught of fresh air. But put in the water such plants as will grow there, and these will use the carbonic acid produced by the fishes, and return a new supply of pure oxygen for them.

In the glass vessels or aquariums shown in the illustrations, figures 1, 2, 3 and 4, we see fishes and plants together, and though the quantity of water be small, there is no need of changing it, for months or years, since, as above explained, the united breathing of the animals and plants keeps it pure. It will be seen that to have a healthy aquarium, the ratio of plants to animals must be such that their action upon the water will counterbalance each other.

But this is not all that is necessary in an aquarium. It is found that the excrements of the animals and the decaying portions of the plants will, in a short time, render the water foul, and unfit for either animals or plants. A beautiful discovery counteracts this difficulty. We find that water snails of several kinds, as well as various other small animals, actually feed upon these decaying substances. These snails, thus formed from decaying matter, in turn become pure food for the fishes themselves. Did it ever occur to you, reader, that the snails in the bottoms of rivers, lakes and oceans are literally *seavengers*, whose office seems to be to "clean up" the habitations of other animals, and purify the water in which they live. Yet such is the case, and the more we study the Creator's works, the more we shall be impressed with the fact that He has made nothing in vain.

So, then, a perfect aquarium is one which, like the natural reser-

voirs of water, contains animals to breathe oxygen, and form carbonic acid, plants to absorb the carbonic acid and restore pure oxygen, and snails or other small animals to consume the decaying materials of both large animals and plants, and thus keep the water pure.

EXPLANATION OF THE PLATES.

Aquariums are made of various forms and sizes. Figures 1 and 2 illustrate two of the simplest. Figure 1 is a box with glass sides. It may be but a foot or two in length, width and height, or it may be several feet long and wide. An English gentleman, Mr. Gosse, who has made many improvements upon the first discoveries of Mr. Warrington, actually kept over one hundred living specimens in a box like this, only two feet long and one-and-a-half feet wide. He, however, found his vessel too small, and the number of animals was decreased. Those of this shape, now made for sale by dealers in England, are usually formed with slate floors and backs, and zinc columns and mountings. Care must be taken that putty, cement or paint be not so used as to injure the water. The smallest and most simple are about 15 inches long, and 10 inches broad. These may be set upon a mantel, a shelf, or on a small table as here represented. A bed of pebbles and sand, about three inches deep, is placed upon the floor. Pieces of rock are variously arranged to give variety and a pleasing effect upon the eye. A point or two of the rock-work may well project above the water. Various kinds of water-growing plants are set in the sand, such as water-lilies, water-plantains, water-iris, arrow-head, water-cress, mare-stail, duck-weed, &c. There are, as yet, very few aquariums in this country, except a fine collection just introduced into the *American Museum* in this city. These are a pleasing sight, well worthy a day's visit. We have spent many profitable hours in studying these caged inhabitants of the deep, disporting in their own element, and exhibiting all the natural phenomena of active life. We are glad to learn that the proprietors, Messrs. Greenwood & Butler, are preparing to furnish the glass vessels, ready stocked, when desired, and at reasonable prices.

No. 2 is a common bell-glass, of the simplest, cheapest kind, mounted upon a turned wooden stand. On the top of the two

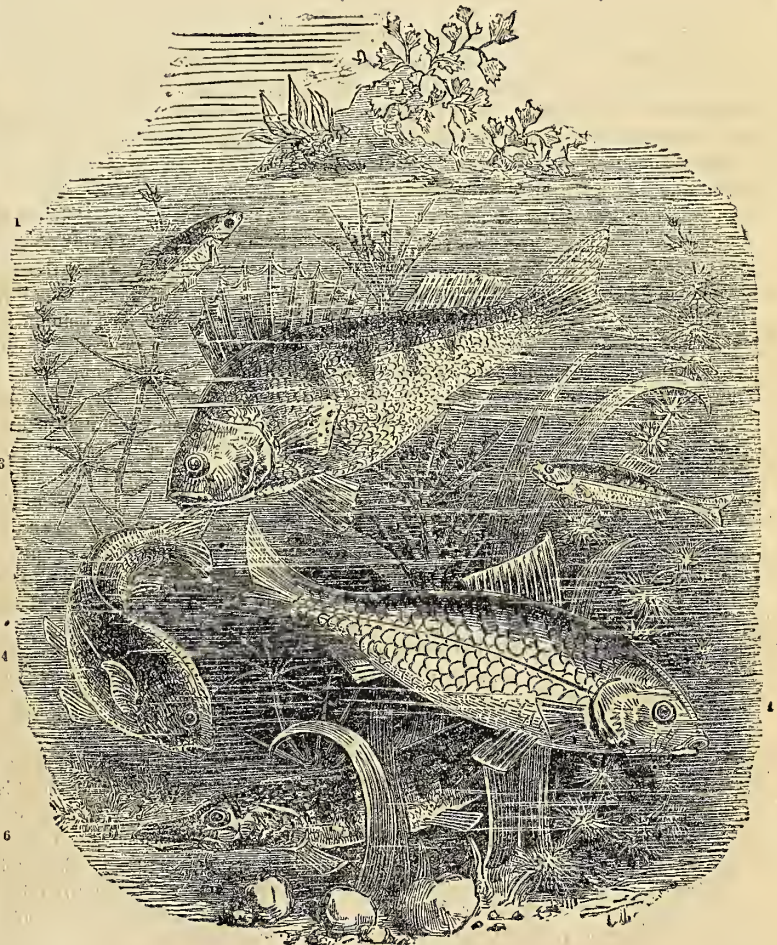


Fig. 4.

1 & 2. Minnows. 3. The Perch. 4. The Tench. 5. The Roach. 6. The Pike.

stones are placed small masses of earth, just above the water surface, so that the roots of the fern, forget-me-not, and sundew planted there will extend down into the water. In the centre is the Arum, (*Calla Æthiopica*), a magnificent ornamental plant, that always flourishes best in water. The plants named above may be substituted. The animals are perches, minnows, water-beetles, mud-snails, &c.

Fig. 3 is introduced to show an interesting species of fish, of diminutive size, called the Stickleback, which builds a nest in the water for its eggs. We must not now take space to narrate the many very interesting peculiarities of this fish. Our readers will find them described at length in an English Book, by Noel Humphreys, entitled "Ocean and River Gardens." We are indebted to this work for the originals of the figures 2, 3 and 4. (Fig. 1 was drawn as well as engraved expressly for the *Agriculturist*.) We hope some American publisher will soon issue a cheap illustrated edition of Mr. Humphreys' work. The English edition costs \$3. It is, however, beautifully executed, contains 24 finely colored plates, and is cheap even at that price. It should be procured by those who make the first attempts to supply themselves with Aquariums.

Fig. 4 is a section of an aquarium which is sufficiently explained by the accompanying notes.

CHOICE ORNAMENTAL TREES.

The season for transplanting having again arrived, we wish to call attention to a few shade trees, which, though not very common and popular throughout the country, are yet very beautiful, and worthy the special notice of arboriculturists.

The *Judas tree*, or Red Bud (*Cercis canadensis*). This is not a large tree, it seldom reaches higher than thirty-five feet. It is found sparsely scattered in sheltered valleys, in all parts of the country, from Maine to the Carolinas, though it abounds most on the banks of the Ohio. We have seen it growing even in Florida, but whether indigenous there or not, we did not learn.

The branches of this tree resemble in their general outline, a flattened umbrella. The leaves are exceedingly neat and pleasant to the eye, being of medium size, heart-shaped, dark green above and silvery underneath, and looking as if they had just been washed by a shower. Flowers appear upon the twigs early in Spring before the leaves put forth. They are small, shaped like the pea-blossom, and are of a deep purplish rose-color. They grow in clusters completely covering the branches, and are conspicuous from quite a distance. Hence the name, *Red Bud*. The rosy blossoms of this tree combined with the white of the dog-wood, and the scarlet of the maple, form an agreeable sight in Spring. These flowers are succeeded in Summer by brown seed-pods, six or eight inches long, which hang on the trees throughout the Winter. Its name, "*Judas Tree*," was given it by Gerard, an old English gardener and writer, in 1596, who relates that "this is the tree whereon Judas did hang himself; and not upon the elder-tree, as it is sometimes said."

This tree grows rapidly enough anywhere, but succeeds best in a cool, moist and half shady situation. Insects do not infest it, nor does the coldest Winter harm it. We do not hesitate to recommend it as one of the finest ornamental trees of medium size.

Cucumber Tree, or *Magnolia acuminata*. This is more rarely planted than the Red Bud. The impression prevails quite extensively, that it is too tender for Northern latitudes; yet it is indigenous all along the ridge of the Alleghanies, and even as far north as Central New-York. It does not

succeed well in wet soils, yet it prefers one moderately moist and rich. It should be removed from the nursery when young, and be well treated until thoroughly established; then it will take care of itself and reward all the planter's labors.

To those who have seen the Cucumber tree we need say nothing in its description and praise. For the benefit of others, we observe that it is as beautiful as any other member of the Magnolia family, native or foreign. It is often found eighty feet high, and with a trunk three or four feet in diameter. Straight and erect as a maple, its top is even more symmetrical and majestic. The leaves have quite a tropical look, being six to eight inches long and three to four broad. It bears flowers six inches in diameter, pale yellow, sometimes tinged with blue, and slightly fragrant. The cones (fruit) are three inches long, and when green, resemble a cucumber, from which it derives its name. Considering the neatness of its bark, its erect trunk, its well-balanced head, large leaves and flowers and striking fruit, it deserves to rank as a first-class tree. As a nice observer has said: "It is just the tree, in its symmetrical proportions, for planting on the lawn, or near the house, where it harmonizes with the architectural expression of the building."

Tulip Tree or White Wood (*Liriodendron tulipifera*). Here we have a larger tree than either of the preceding. When growing under the most favorable circumstances, it attains a height of one hundred and forty feet, with a trunk twenty feet in girth. The trunk is generally erect, branches spreading, leaves large, glossy and of a delicate green. The bark on the younger limbs is smooth and ash-colored. The leaves are of a peculiar shape; they are five or six inches broad, and at the point of their greatest width appear to have been abruptly cut off. It has yellow flowers, appearing in June, in shape like a tulip, (whence its name,) composed of six petals which are mottled on the inside with red and green. These flowers from their contrast with the foliage of the tree, are visible at quite a distance and present a showy sight. The tree does not blossom until it is ten or twelve years old. The tulip tree belongs to the family of the magnolias, and is hardly inferior as an ornamental tree to any of its relatives. Downing says of it: "Whosoever has once seen it in a situation where the soil was favorable to its free growth, can never forget it. With a clean trunk, straight as a column for 40 or 50 feet, surmounted by a fine ample summit of rich green foliage, it is, in our estimation, decidedly the most stately tree in North America." Occasionally, when it is planted in exposed situations, the bark of the young tree becomes blistered on the south side, and its growth materially checked. By cutting down a tree so affected, just below the injury, we once obtained a handsomer tree than when it was originally planted. Several branches shot out on every side from the bole and grew up luxuriantly into a grand, globular mass of waving foliage, which is now the daily delight of our eyes.

FROSTED TREES.

A CELLAR TO PROTECT THEM DURING WINTER.

It not unfrequently happens that the farmer, or nurseryman even, receives his bundles of fruit, or other trees, in a frosted condition, and loses a large part of them through ignorance of the best method of managing them when in this state. Of course trees are injured by having their roots frozen when out of ground, but with judicious management the injury which otherwise might prove fatal, may be very much lessened.

When a bundle or box of trees, or plants, is received in a frozen state, do not unpack them, but

place them at once in a cool dark cellar, and allow the frost to come out as gradually as may be with the admission of as little light as possible. After the frost has been entirely removed, they may be unpacked, and if the ground will admit, plant the hardy trees at once, or the whole may be "heeled-in" by plowing out a few furrows on a dry spot, and laying the trees down close together, with their roots in the furrow, and cover with five or six inches of soil. The trunks and limbs should be left exposed. Nurserymen often have a cellar on purpose for the reception of trees arriving from France and England during the Winter. They select a dry spot, with a sandy soil if possible, and having excavated the earth for four or five feet in depth, of the desired size, erect stone or brick walls around the sides six or seven feet in height, and cover with a span roof, having windows inserted in it. An entrance of ample size is provided upon the outer side, secured by both trap and inner door, the more effectually to exclude frost. If the soil on the bottom is hard or stony, one foot of sand may be carted and spread over it. Into this cellar bundles of trees are put upon arrival, (if in the Winter season,) opened at a proper time, and the trees set out in rows, to remain till Spring. The rows are very near each other, just admitting a person between them, and three to six trees may be set abreast each other in the row, thus economizing space. A barn or other cellar might be used for a similar purpose.

PLANTING TREES.

To the Editor of the *American Agriculturist*:

I have just read J. F. Hunt's communication in the October number, on digging holes and planting trees, and before finishing his "deep hole digging," I jumped at the conclusion, viz.: *one grand failure*. I often get quite nervous when one talks of digging deep holes in hard pan and filling up with rich composts, as I once fell into one of these three-feet-holes, taking a Winter soak, while in an absorbing pursuit of a flock of quails. Experience teaches that in planting, the roots should continue their growth in the same straight forward manner in which they commenced. The holes should be very broad, but should not extend one inch into the hard-pan or impervious clay. You may enrich the soil in which the roots are to grow to your heart's content, but do not decoy them down into a hard-pan trap, where after gorging themselves for a season the roots are left to water-rot in their attempts to penetrate a stiff clay. Never stake trees for an orchard. They will rebound from a hard wind, but the stakes will not. If the trees lean to one side root-prune upon that side in the Spring, and straighten them by degrees after rains. For planting peach trees, an old Pennsylvania adage runs "a careful taker up and a lazy planter,"—meaning good roots and a shallow hole. After such planting however, if not after all planting, the ground should be plowed.

To those planting trees this Fall I wish to say with emphasis, pause when the spade strikes into and throws up clay, and listen to the death cry of tens of thousands of murdered trees.

C. G. SIEWERS.

CINCINNATI, October, 1857

REMARKS.—We say, hard-pan, or no hard-pan, dig deep broad holes, and fill in with good surface soil, but always provide drainage enough to keep the bottom of the holes free from standing water at all seasons. If you can not plant one-hundred trees on a hard-pan, and provide the necessary drainage, then plant fifty. One tree on deep good soil is worth two on a shallow soil having an impervious subsoil a few inches from the surface.—[Ed

STRAWBERRIES—CHAPTER IX.

WHAT CONSTITUTES A GOOD VARIETY.

Having gone over the whole ground of Strawberry culture, and there being nothing to do in out-door operations this month, save the Winter protection of the plants, which has already been described, we will close this series of chapters for the present season, with a few hints to those who may hereafter bring to notice *new* varieties.

We think there is a necessity for some criterion by which to judge of the comparative value of new Seedling varieties. It is not sufficient to say that a strawberry is very productive, or very large, or of excellent quality. We wish to know how many points of excellence it possesses. Why is it that Hovey's Seedling has maintained its predominance over almost every variety for twenty years? Simply because it possesses so many points of excellence. We will name *seven* which compose our beau-ideal of a Strawberry.

1. *Vigor*.—Plants that will attain a good size under ordinary treatment, or that will throw out a number of new plants. The Crimson Cone is a good example. If kept clear of runners it will make a large stool. If suffered to run it will soon fill a broad space, one plant will cover thickly more than a square yard. Some single specimens have sufficient vigor to produce in one season, a hundred new plants.

2. *Hardiness*.—This includes the quality of resisting the Winter's frost, and the Summer's sun. Some kinds are injured by the severe cold, others are scorched by the heat of Summer. Many of the European varieties of much merit are entirely worthless when exposed to our hot sun. This is the case with the Fill-Basket, Myatt's Pine Seedling and the British Queen. (See illustrations on page 84 April No.) Plants can be protected in Winter, by covering, but they can not be shielded from the sun's rays.

3. *Productiveness*.—This is a *sine qua non*. Those who plant strawberries want fruit. Under this head we wish to know what *quantity* of fruit has been produced from a square yard under a specified mode of culture. If the plants are *hermaphrodite* or perfect, we wish to know what proportion of the blossoms will produce fruit.

4. *Good Size*.—This refers to uniformly large and regularly formed berries. Hovey's Seedling may be taken as a standard of comparison.

5. *Good Quality*.—Solid, rich and juicy, are the components of quality. Here also Hovey's may be referred to as a standard.

6. *Beautiful Color*.—The color should be bright scarlet, or crimson, and permanent. When strawberries are raised for market the color is a matter of much importance. Some berries, although bright and beautiful when first picked, lose their color after being exposed a few hours, and become dull and stale looking. This was the objection to Hovey's Seedling, when first introduced in the New-York Market. The Large Early Scarlet and the Crimson Cone owe much of their popularity to the fact that they retain their bright color for a long time.

7. *A reflexed Calyx*.—By this we mean the quality of having the hull bent back from the fruit. This may not seem to be a matter of much importance, but where there are many to hull it is a consideration. In some kinds the calyx adheres so closely to the fruit that it can not be removed without mutilating the berry.

We do not know of any variety comprising fully all these points of excellence. But we think it possible that they may all be realized yet; and even if they should not, it is well to have an *ideal* before us, that we may combine and select with reference to

Comparing Hovey's with our ideal we find it fails in *quality* and *color*. The fruit is somewhat dry and not very high flavored. The color is good when first picked, but it soon becomes dull. If it had the color of the Early Scarlet it would be the most desirable market fruit of any yet introduced.

Longworth's Prolific is a little defective as regards hardiness. The leaves are liable to be *burnt* by the sun, especially if the plants are old and the weather dry and hot. On this account it succeeds best when the bed is renewed every year. The calyx adheres too closely to the berries, especially in the small sized ones.

Burr's New Pine was much thought of for a time. Its great excellence consisted in its fine aromatic flavor. It was deficient in vigor and deficient in size, and only moderately productive.

CONVENTION OF FRUIT-GROWERS.

Leaf Blight and Cracking of Pears—Pears on Quince Stocks—Best Form and Age of Trees for Planting—Raspberries—Blackberries—Vote on Merits of several Varieties of Fruits, &c.

The Western New-York Fruit-Growers' Association held their autumnal meeting at Rochester, Sept. 18 and 19, at which was a good attendance and a fine display of fruit. J. J. Thomas, of Union Springs, occupied the chair, and the discussions throughout were of an interesting character. The causes of the leaf-blight, and cracking of the pear, was the first subject which claimed attention, but after a lengthy discussion, the subject was left with a recommendation to plant varieties not liable to these diseases, and a committee was appointed for further investigation, to report at the next meeting.

Another question of much interest was, "whether the pear on quince could be profitably cultivated on a large scale for market purposes." This called out a free expression of opinion from those who have given much attention to the cultivation of this fruit, and the opinion seemed to obtain, that with a proper selection and planting, good tillage, and judicious management, they might be a profitable market crop. It was recommended to plant them in rows, near together, and work like corn.

The *form* of the tree best suited for a standard pear was next discussed, and the prevailing sentiment appeared to be that the Pyramid is the best form, allowing the trees to branch near the ground. On the question "what age is best for planting apple and pear trees from Nurseries to orchards to insure success," there was but one prevailing sentiment, and that in favor of planting *small trees*, two years from the bud for pear, cherry and plum, and three years at most for the apple.

The smaller fruits claimed some attention, and among raspberries Brinkle's Orange was recommended, together with the Hudson River Antwerp. Of blackberries, the New Rochelle was highly praised. It should be allowed to fully ripen before picking. A resolution was unanimously adopted to call this fruit (sometimes termed the Lawton) the New Rochelle Blackberry.

A list of apples, pears and peaches, for *marketing*, was balloted for, and resulted in the following preferences,—those first named having the highest vote:

Apples—R. I. Greening, Baldwin, Roxbury Russet, Red Astrachan, King of Tompkins Co., Tolman Sweet, Northern Spy and Esopus Spitzenburg.

Pears—Bartlett, Louise Bonne, Duchesse d'Angouleme, White Doyenne (?), Easter Beurre, Lawrence, Seckel, Vicar of Winkfield and Flemish Beauty.

Peaches—Crawford's Early, Crawford's Late, Old Mixon free-stone, and Early York.

GRAPE CULTURE—NO. XI.

BY WILLIAM CHORLTON.

Most of our labors for the present season are now finished, and according to good or bad management, or injurious effects of the wet and cold Summer, so have been the results. In consequence of this latter drawback, the wood of all out-door grape-vines, and also that in most cold graperies, has not thoroughly ripened, which renders it necessary to assist by artificial means to make up the deficiency. This, in out-door culture, may be done by removing the superfluous shoots, thus allowing the sun to act upon the branches, and further centralize or ripen the juices, thus reducing the quantity of aqueous matter contained in the vine. Do not, however, injure the leaves on the remaining branches, as respiration would be checked, and the object intended to be gained prevented. It is advisable to follow up the same course with late crops under glass, and, in addition, to deviate a trifle from general practice by keeping the house a little warmer than usual. This may be accomplished by keeping the lower ventilators closed, by which a higher temperature will be maintained near the bottom of the house. A free circulation, quite sufficient for all purposes, may be admitted by the upper openings. A genial and dry atmosphere will thus be secured, which will enable the vine to complete the ripening process without check, and if the house be entirely closed at night when there is danger of frost, the leaves will be kept in a growing state for a longer time. Never let a grape vine leaf be injured by extreme cold before it is mature, if it is possible to avoid it. So long as it remains green, it is doing service to the vine. In a healthy plant of any kind, when nature has accomplished her purpose she will cast off the useless parts, and any interference in this particular leads to injurious effects. Where new plantings are intended, the early part of this month is the best time for making preparations, as the needful operations can now be executed much better while the ground is in good working order, and not saturated with water. For the vineyard, drain if necessary, plow a deep furrow, and follow with the subsoil plow; or when only of small extent, trench two spits deep. Nothing will be lost by the extra labor. If the soil be not naturally very fertile, add a good dressing of barn-yard manure, or an abundance of rotten leaves. In the August number mention is made of the good effects of swamp muck, by Mr. John Ellis, of Fox Meadow, which I would fully indorse, when properly applied, and the use of which he well understands. Choose the large *tussocks* and the fibrous upper surface of the muck swamp, throw these into a heap, and as the work proceeds mix a portion of powdered lime, say one barrel to each twelve cart loads; let it remain through the Winter, and afterwards, cart or wheel it over the piece to be planted. Dig or plow it in, and you have one of the best auxiliaries either for the graperies border or outside culture.

Those who only wish to plant a few hardy vines, and have their land in a good state for the purpose, may do so at the commencement of this month. It is not advisable to defer it later in the season. The best choice of plants is generally to be obtained in the nurseries at this time, which is an object. If removed early enough, and the roots are kept moist until they are again planted, they will be in a good condition for a vigorous start in the Spring.

The wood in the forcing house ought now to be thoroughly ripened, with no leaves remaining, which is a seasonable time to prune. After

pruning, remove all the loose bark, and clean well around the bases of the knots to prevent insects lodging therein. Wash the vines with the preparation advised in February, taking care not to injure the buds. Keep the house as cool as possible, and let the vines rest so until the time to commence forcing, which will be according as early or later grapes are wanted. To obtain ripe fruit by the middle of May, it will be required to begin by the middle of December, and later in proportion. Such extreme artificial culture should not be attempted by the novice, however, as it requires considerable experience, and is attended with much care and expense. Grapes still on the vines, either under glass or out-doors, need not be cut at once; one or two degrees of frost will not hurt them even if wanted to keep. If more frost is apprehended, they may be removed and preserved, as advised last month. In the retarding house, or where there is a heating apparatus, a gentle fire should be applied on such occasions, but admit air freely, excluding any moisture.

FALL PRUNING OF GRAPES.

The time has now arrived for the great annual dressing of hardy vines. For this latitude, we much prefer Autumn for doing the principal share of this work. In the first place, it will ordinarily be done better now than amid the snows and frosts of Winter. And secondly, if done soon after the dropping of the leaves, the organizable matter which would otherwise be distributed among all the shoots and buds of the entire vine, is accumulated in the shoots and buds left after the pruning, the advantage of which will appear in the increased size of the fruit next season. Thirdly, vines pruned in Autumn, can be much easier handled when the time comes for loosening them from the trellis and laying them on the ground for the Winter—a practice we decidedly recommend for the Northern States. Moreover, vines pruned in mid-winter are apt to lose one or more buds back from the incision; and if pruned in Spring they are certain to bleed badly, a thing we don't like to see, even if it does the vines no sensible harm. These reasons are theoretically sound, and we have tested their practical importance for several years on our own premises.

But without dwelling longer on this part of the subject, we wish to say a few seasonable words on the manner of pruning. And, for the benefit especially of our new subscribers, we will show the method of dressing a vine for several years.

One principle should always be borne in mind, that the grape bears its fruit on shoots of the current year's growth, which spring from buds on shoots of the preceding year's growth. This is the key to the whole mystery of vine-dressing. We will now suppose that the reader has a young vine in his garden, which has made a year's growth since it was planted. It looks, perhaps, like figure 1.



Fig. 1.

Cut off, now, all of these shoots, except the strongest, and prune that back, leaving only two buds of the present year's growth. It will then look like figure 2. And here, we will add, parenthetically, that if your vine is a choice variety which you wish to multiply, you can bury the cuttings just taken off in some dry place in the garden, and on the opening of Spring set them out. Prepare the ground well by deep spading, put in the cuttings, leaving only one bud on each above ground, mulch the soil in Summer, and in ordinary



Fig. 2.

seasons, two-thirds of the plants will grow well. New hands at grape growing are altogether too tender-hearted, or too tender-handed. It seems to them like a waste of the vine to cut it back to within two or three buds of the ground, as shown in fig. 2. But be assured that to produce a good root and strong branching vines which are at all times under your control, you must begin at the very outset to use the knife freely. In a large, flourishing and profitable vineyard which we visited at the West the past season, all the vines are cut down to within three feet of the ground every year. They run upon a low trellis made by setting rough posts five feet apart, across which are nailed long, strong laths forming a sort of fence. The grapes are never beyond one's reach.

But to return. The buds left on the original vine will push early the next Spring. After a few week's growth, rub all off except the strongest shoot, and allow that to extend itself until Autumn. During the Summer, pinch off all laterals, (side shoots), and cut out any suckers springing up from the root. In the Fall, we shall have the following picture.



Fig. 3.

this year, but they must be taken off, because the vine is not yet vigorous enough for fruit-bearing. In the Fall our plant will look thus:

Third Year.—The two strong canes fig. 4, should now be shortened to two or three buds of the new growth, and tied to the lower bar of the trellis, which we will suppose has just been erected. Or rather, we would advise to lay them on the ground for protection in Winter. The following Spring they may be raised and tied to the lower horizontal bar of the frame. During the Summer, the bud on the extremity of each cane should be allowed to grow at random on the trellis. This is done in order to enlarge the foundation or frame-work of the vine. One other bud also should be allowed to grow upward from the horizontal arms, on each side of the central trunk. Laterals and suckers should still be kept in check. At the close of Summer we shall have this picture:



Fig. 4.

Fourth Year.—The canes which have grown at random from the ends of the horizontal arms should now be shortened back to within about two feet of their last year's length, and then brought down to the lower bar of the trellis. The other two canes must be pruned to about four feet. Next Summer, these upright canes will throw out laterals on which clusters of fruit will appear. Two or three bunches may be allowed to grow and ripen on each spur. In the meanwhile, the



Fig. 5.

terminal buds of the horizontal arms will throw out canes for prolonging the vine on each side, and new upright canes will grow up between the fruit-bearing shoots to furnish new wood for bearing fruit the next year. Only two new upright shoots should be suffered to grow, the weakest being rubbed off. And thus, two new upright canes may be added annually, and the horizontal arms extended, until the trellis is covered. The vine will then have this appearance

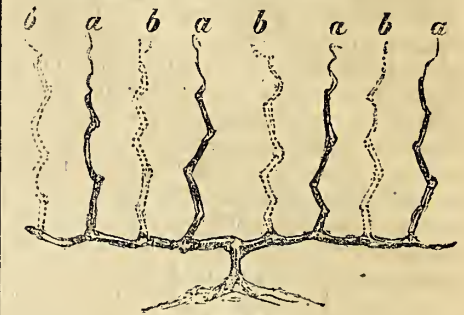


Fig. 6.

After this, the pruning may be done according to the renewal, or the spur system. If the renewal is preferred, the method is as follows: Cut out, in the Fall, the dark lines, a, a, a, which have borne fruit the current year, leaving a strong bud at their base. The dotted lines, b, b, b, are shoots which have grown up the current year while a, a, have been bearing fruit. These are to be left to bear fruit next year. While these again are producing clusters, new canes will be growing up from the strong bud left at the base of a, a. After b, b, has borne fruit one year, it is to be cut out, to give room again for a, a, to do the same. And so on alternately from year to year; the principle being always followed, that the growth of one year bears fruit the succeeding, and then is removed.

If the spur-system is chosen, the upright canes are not allowed to grow nearer to each other than two feet, and then are kept in place permanently. The side-shoots which spring out from them are cut back every Fall to one or two strong buds. Fruit-spurs grow from these buds. It is recommended by some, always to leave two buds, one of which shall furnish spurs for fruit-bearing the current year, the other to furnish eyes for growing the next year's crop.

Thus, (fig. 7), a is the bearing spur of the present year, and to be cut clean out in the Fall, leaving b to fruit next year. And while b is fruiting, a is pushing again, and so on annually. It is objected to this by some, that this is unnecessary trouble, and that two shoots render the foliage too crowded for the successful ripening of the fruit.



Fig. 7.

The renewal method is considered the best for native varieties, which are rampant in their growth, often sending up strong shoots from the base, fifteen or twenty feet long in a single Summer. The spur-system is best for slow-growing sorts, which are chiefly foreigners.

In our own grounds we have sometimes practiced a combination of these methods, and we like it. We have trained vines in a fan-shape; the canes diverging, like the spokes of a wheel, from the central trunk to the top of the trellis. So long as a shoot retains all its buds sound and plump, we let it stand, and prune it according to the spur-system; when it fails in any respect, we cut it out and train up a new one in its place from the base. We like this method, because it enables us to remedy at once any defect in the vine, and chiefly, because of the facility with which canes so treated can be laid down for protection in Winter



CLINTON GRAPE.

GRAPES—REBECCA—DELAWARE, CLINTON.

We present on this page engravings of clusters of Rebecca and Clinton grapes, which, with others, were referred to on page 158, (Aug. No.) We intended to have introduced a cluster of the Delaware, a more valuable grape than the Clinton, but could not get the cut in season. The Delaware somewhat resembles the Clinton, here shown, but the fruit of the former is a little larger, and the cluster usually more shouldered.

Our attention was especially called to this subject, at this time, by the reception of some clusters of the Rebecca and Delaware, received Oct. 1st, from Mr. Brocksbank, of Hudson, N. Y., who is the well-known propagator of the Rebecca. These samples have been in our possession for two weeks, and though standing upon the table in a warm room, they are still in excellent condition. We have tasted them several times, and submitted them to good judges who have incidentally called, all of whom agree with us in pronouncing them of superior quality.

The berries of the Rebecca, which are very accurately represented in our cut, are considerably larger than those of the Delaware, and to our individual taste they are preferable. Their white color and sweet flavor are scarcely excelled by the finest foreign grapes. This grape has proved perfectly hardy, both at Hudson, N. Y., where it originated, and at other points still further north. Its early ripening, nearly two weeks before the Isabella, together with its hardiness, good keeping qualities, and superior flavor, render it a decided acquisition to our stock of native grapes.

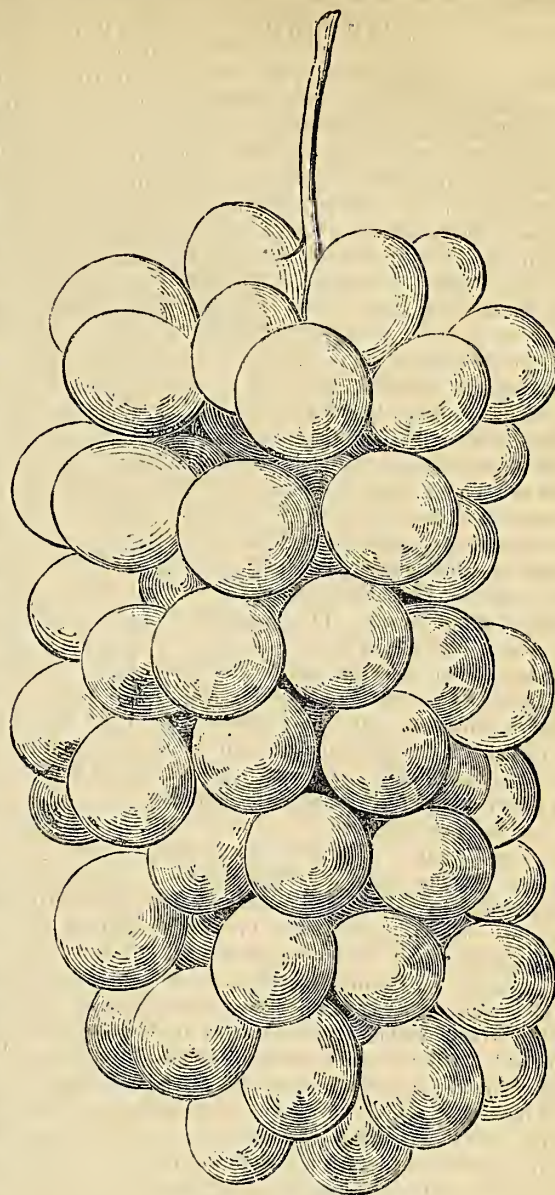
Since writing the above, we have looked into the new edition of Downing's "Fruit and Fruit trees of America,"—very high authority by the way—and find the following description of the

Rebecca: "Bunches nearly cylindrical, about four inches long by two and a half inches in diameter, very compact and heavy, often shouldered. Berries of full medium size, oval, and generally much compressed, strongly adhering to the peduncle. Color light green in the shade, auburn or golden in the sun, and covered with a light bloom, considerably translucent. Flesh of some consistence, juicy, sweet, and delicious, with a perceptible native perfume, but very agreeable. It has no toughness or acidity in its pulp, and ripens eight or ten days earlier than the Isabella, and keeps a long time after it is gathered. This superior white grape is undoubtedly a native, a chance seedling in the garden of E. M. Peake, of Hudson, N. Y., where it has been growing about nine years, and proved perfectly hardy and productive. It is not so vigorous in habit as the Isabella and Catawba, but healthy, and not disposed to mildew; and being exceedingly beautiful, as well as excellent, it must be regarded as a very great acquisition."

Referring to the Delaware, the same authority says: "Its fruit bears a strong resemblance to the Traminer, and the Red Resling, two celebrated wine grapes of Germany, but from which, in wood and foliage, it is as distinct as any of our native grapes. It is free from blight and mildew, never prematurely losing its leaves, and seeming to luxurate in our climate, which cannot be said of any foreign grape with which we are acquainted. Bunch small, very compact, and generally shouldered. Berries smallish, round when not compressed. Skin thin, of a beautiful light-red or flesh-color, very translucent, passing to wine color by long keeping. It is without hardness or acidity in its pulp, exceedingly sweet but sprightly, vinous and aromatic. It ripens early, or quite three weeks before the Isabella (?). Its branches and berries are very greatly increased in size by high culture." The precise origin is uncertain. It was found in an indiscriminate mass of vines brought by a German to Delaware County, Ohio, for sale, and is said to have come from the garden of a French gentleman in Hunterdon County, N. J. The origin of the grape is, however, now a matter of no importance; the quality is the thing sought after, and that is certainly good. For further description of these and other new varieties of native grapes, see our article on page 158, above referred to.

DR. UNDERHILL'S ISABELLA GRAPES.

While paying our respects to our new and promising acquaintances, Rebecca and Delaware, we must not forget our long time favorites, the Isabella and Catawba, and especially the former as grown by Dr. R. T. Underhill, of Croton Point Vineyards. We have just received our annual basket of these, and they seem to grow better and better every year. They are certainly larger in cluster and berry this year than previously, with no diminution of good quality that we can perceive. We wish the Doctor would tell us this year how



REBECCA GRAPE.

many he sends to this city, for we can scarcely pass a fruit store, or corner fruit stand, without seeing monster baskets labelled, R. T. U., filled with such fruit as would lead one to imagine ten-thousand spies had just returned from some newly discovered Canaan.

THE "HOP TREE" AGAIN.

In referring to the so called "Hop Tree" on page 232, last month, we gave as its probable name, *Ostrya Virginica*, or American Hop-Hornbeam. We have since received from H. C. Williams, of Georgetown, Ct., a few of the seeds and leaves, and on examination of these we find it to be the *Ptelea trifoliata*, which is more of a shrub than a tree, as in its wild state it seldom grows above the height of ten feet. It is a native of the Middle States, and flourishes well on almost all kinds of soil, even in a partial shade. It is a pretty ornamental tree. The seeds grow in thick clusters or panicles, and present a beautiful appearance. We have tried a few and found them apparently to answer a similar purpose to common hops in yeasting. We should doubt the profitability of growing this shrub or tree solely for its seeds or "hops," though these, if found useful may furnish an additional consideration for planting it as an ornament.

Nobody can stand in awe of himself too much.

GROWING MUSHROOMS.

In response to frequent inquiries we present some particulars on the culture of this singular vegetable production, beds for which may be made at this season. The Mushroom (*Agaricus campestris*,) is often found growing wild along paths much trodden by horses, from whose manure it springs spontaneously under favorable conditions. As frequent serious results have often occurred from mistaking poisonous toad-stools for Mushrooms, much care should be exercised in distinguishing them from each other. Toad-stools have a longer stem, are slimy to the touch, emit a disagreeable smell when broken, and usually grow in the woods or sheltered positions. The true Mushroom, in a wild state, grows only in open grounds, has a peculiar delicate odor, is fleshy and somewhat brittle, of a brownish white above and a pale pink color on the under side of its cap or pileus. They are frequently broiled, stewed or pickled, and are much employed in making cat-sups and as seasoning to soups of various kinds.

The seed or spawn consists of white threads or strings, which are often seen in the compost of a spent hot-bed, or in the droppings of grain-fed horses which have partially fermented in a heap under cover. This spawn may be collected for forming a bed, but it is usually more economical to get the "Mushroom bricks" direct from dealers' seeds, or nurserymen who generally keep them on sale at 10 to 12 cents apiece.

The seed bricks may be made thus: Take equal parts of fresh pasture loam, cow manure and horse-droppings—that from high-fed horses is best—and mix with just water enough to form a batter like grafting wax. When this has stiffened a little, mold it into the form of common bricks and set on edge to dry in an open shed, turning them daily. When half dry make a hole in the center of each, insert a piece of spawn brick an inch in diameter and plaster over with the portion taken out moistened a little, and then dry them thoroughly. When no purchased spawn brick can be obtained, enough seed to begin with can be found by searching in a manure heap where it grows spontaneously as above described. When thoroughly dried make a mound or pyramid of the brick, the spawn side up, on a floor or the ground under cover, putting down first six inches of dry horse manure, then a layer of bricks, then a sprinkling of dry partially fermented manure, then another layer of bricks and so on until all are used. Cover the heap with four or five inches of horse manure to maintain a gentle temperature through the whole. If properly made, fine white threads will soon begin to penetrate the mass, and in about a month the whole bricks will be filled with spawn, when they may be stored in a cool dry room, and if kept from frost they will remain good for years.

The Bed for growing the Mushrooms may be made in a dry cellar, green house, or shed protected from frost. The most simple plan is to use a box or barrel. Begin by collecting daily fresh horse droppings from the stable, throw into a heap and turn often, or spread when much heat is generated. In a couple of weeks or so, when they have become moldy and partially dry they are ready for use. First put into the barrel or box five or six inches of fresh stable manure, then as much of the moldy prepared portion, pressing it down firmly. Thus alternate the fresh and prepared manures until the vessel is full, making the last layer of the partially dried droppings. After standing a week, break one of the spawn bricks into small pieces and insert these a little below the surface; beat down and cover with two inches of fine loam or sandy mold. A few barrels

thus prepared will give a full supply for a small family.

When wanted in larger quantities, choose a convenient place in one side of a cellar or shed protected from frost, and lay down a few inches of litter, covering with a foot of the moldy droppings prepared as above, and tramp the whole solid. This will soon ferment like a hot-bed. After a few days examine its temperature by inserting a stick and let it remain a few minutes. If quite hot on withdrawing it, reduce the temperature by making small holes in the bed. When the heat remains steady at 65° to 70°, that is, a little below summer heat, plant all over the surface, small pieces of the spawn brick of the size of a walnut, putting them an inch or two deep and six inches from each other. Cover over with loam as noted above. If the bed at any time appears too dry sprinkle moderately with tepid water. If the heat declines cover with straw. The best room temperature is about 60°. Young Mushrooms should appear in five or six weeks from planting the spawn. Such a bed will continue in bearing several months. If it begins to decline at any time, another planting of spawn will often bring it into fruitfulness again. A bed four feet wide to ten feet long will furnish an abundant supply for a large family. In gathering, twist out the Mushrooms in preference to cutting off, as no portion of the stem should be left to brood or harbor insects.

HINTS ON WATERMELONS.

All fruits and vegetables, of tropical origin, appear to have suffered in localities north of this, from the superabundance of cold and moisture, in the early part of the season. We hear, on all hands, complaints of poor squashes, nutmeg melons, and watermelons. The crop from the south has been very abundant, but most nutmegs, that we have discussed this season, have been wanting in flavor. Gentlemen, who have forcing boxes, have probably secured good melons.

But we planted ours in the open ground, having usually succeeded in securing perfect specimens, and of better flavor than the same varieties from the south.

THE GREEN IMPERIAL

We have cultivated for four seasons, and have found it an excellent variety. It is of globe form, a yellowish green when ripe, with a very thin rind, and a light red core. It is the heaviest melon of its size, with which we are acquainted. Some of the specimens, in good seasons, reach a weight of twenty pounds and over. The flesh is beautifully veined, and of excellent quality.

THE ORANGE WATERMELON

disseminated by Mr. Peabody, of Columbus, Ga., has not met with so general favor as was anticipated. Some cultivators have professed themselves disappointed, and do not pronounce it, even good. But we think their judgment must have been based upon specimens from impure seed, or from those imperfectly grown. This fruit, when well grown, and deprived of its skin, in which way alone it should be served, is one of the most beautiful dessert fruits, that can be imagined. The flesh is lacking in solidity, and we must say is not quite equal to the Green Imperial, though very good.

THE BRADFORD

in our judgment, is a better melon than either of the preceding. We received the seed three years since, from W. Sumner, Esq., of South Carolina, with several other varieties. Its appearance is much like the Mountain Sweet, the flesh is white, juicy and sugary, the perfection of its kind. The seed we believe is only in the possession of

amateurs. It ought to be universally disseminated.

KEEPING CELERY IN WINTER.

Directions for the culture of celery were given in the August *Agriculturist*, page 183. Several methods are adopted for keeping in Winter, depending upon climate, situation, quantity, &c. In warm latitudes where there is little snow, and the ground is frequently thawed out during Winter, a good plan is to dig a trench on the south side either of a tight board fence or of a building. Take up the plants with most of the roots attached, and set them into the trench close together in double or triple rows, making as many trenches as may be necessary to hold the entire crop. Sprinkle in dry sand or loam enough to nearly hide the leaves and cover with boards placed in a shelving position so as to carry off rain. On the approach of very cold weather, straw should be crowded under the boards to prevent hard freezing.

In colder latitudes, take up the plants, cut off a portion of the leaves, and pack into a box or barrel, with the roots down. After putting in as many side by side as there is room for, sift in enough dry sand to cover them and put in another layer, sanding as before, and so on until the box or barrel is full. Keep in a cool dry cellar or room where little frost can reach them.

For a third method, set the plants closely together on the bottom of the cellar, and cover with sand nearly to the top. Stored in any one of these methods they will keep well, and be ready blanched for use at any time desired.

KEEPING CABBAGES IN WINTER.

To preserve cabbages through the Winter and still have them accessible at all times, select a perfectly dry spot, and open a trench with the spade or plow. Take up the cabbages with their roots attached, inverting them as you proceed to allow the water to run out from the heads. After pulling a quantity and standing them on their heads until they are thoroughly dry, set them out thickly in the trench, in their natural position, covering with earth nearly to the head. Open another trench as near this as the heads will admit of, and set out a second row. Proceed in this manner until all are used, when a temporary board shed may be erected over the patch, four feet high in front, and sloping to near the ground in the rear. This should be sufficiently tight to carry off all the water, but the ends may be left open for ventilation, closing with straw only in very cold weather. Cabbages will keep in this situation until Spring. If water is prevented from entering the heads, the freezing will have no injurious effect. When wanted for use cut off the heads, and if frozen soak in well or spring water for a few hours before cooking. This will take out the frost gradually, and also remove any disagreeable flavor.

Another and very common method is, to stand them upon the level ground, with the roots up, and turn a furrow against the row upon either side. An additional covering is given by banking up the earth about them with a spade, until the heads are entirely buried. They keep pretty well in this manner, but cannot be easily got out when the ground is frozen hard.

Another plan which we have pursued with success, is as follows: Transplant the cabbages into close single rows, say 12 feet long, setting the heads nearly down to the surface of the ground. At each end of the row drive a crotched stake, and put a pole across a few inches above the heads. Lay upon each side some straight

straw, to make a pointed roof over the heads, and shovel on a thin layer of earth at first, increasing its thickness as colder weather comes on. The frozen earth can be chopped away at any point, and the cabbages removed as desired, closing the opening made with earth or a bundle of straw. The cabbages will grow and increase in size all Winter, if an opening be left at each end for the access of air, closing it only in case of extreme cold. It is necessary that the earth be packed so as to shed off the rain, as the straw, becoming wet, will rot and injure the heads, though it ought not to be allowed to come in direct contact with them. The mice sometimes get in and destroy the cabbages. If discovered by their holes, they should be trapped immediately.

Still another method we have found to answer well, and to require little time. Lay down two poles or rails upon the ground, two to four inches apart. Turn the heads down upon these and cover them with a few inches of earth, smoothing it off to shed water. On the approach of very cold weather, put a large quantity of earth upon that portion of them desired for Winter use. We have removed the snow, cut off the frozen earth with an old ax, and taken out the cabbages in fine condition during the coldest season of mid-Winter.

GOOD GARDEN PEAS.

As the gardening season is over, it is well to sum up the results of our experience, while they are fresh in mind.

THE DANIEL O'ROURKE

which was sent out from the Patent Office, two or three years since, is comparatively a new variety in England, where it first attained its celebrity. Its chief excellence is as an early variety, maturing a few days sooner than the Prince Albert, Early Kent, and other early varieties. It is a good bearer, the pods are of good length, and well filled with a pea of excellent quality. It should be sown early, in order to secure the best results. It is comparatively worthless for a late crop. We are much pleased with this variety, and think it worthy of the attention of market gardeners, as well as of those who plant only for family use.

THE CHAMPION OF ENGLAND

maintains its place, as the best pea for the main crop. We never saw this vegetable in its perfection, until we fell in with this variety some four or five years ago. It is a shrivelled pea, of large size, and very sweet and delicious. It is a standard of excellence. The vines grow stocky and bear a profusion of well filled pods. We are surprised to find, that this pea is not more generally known. Not one farmer in a hundred has ever seen or tasted it. It ought to have a place in every garden where peas are grown, and to form the main crop of market gardeners.

STANLEY'S MARROW

we have tried for the first time this season. It is a fine large pea, later than the Champion of England, and nearly as good in quality. It shrivels like it, but is of lighter color. It does not bear quite as well, but is in every respect a valuable sort, and worthy of a place in our gardens.

EFF'S LORD RAGLAN

has lately been introduced from England. It matures about the time of the Champion, and is nearly as good in quality. It is not so stout a grower, nor so large a bearer, but is worthy of cultivation.

THE GREEN MAMMOTH DWARF

is a great improvement upon the old Bishop's Dwarf, and ought to supercede it. The pea is of very large size though the vine is a true dwarf;

it is a good variety for small gardens, where bushes would be in the way.

TREAT YOURSELF TO ASPARAGUS.

Of all cultivated things in the garden, we think there are few better, cheaper, and at the same time more substantial luxuries than the asparagus—we say substantial, because, while it affords pleasure to the consumer, it yields nourishment. As to its cheapness, there may be a difference of opinion; but it is to be taken into the account that a bed once well made is a permanent investment, requiring comparatively little care, and giving an annual return. At page 159, July No., a correspondent describes a bed made in 1819, which has continued productive during thirty-nine years, yielding a fair crop the past season. A bed 25 feet square will give a daily supply for a large family during its season, after the first two or three years. Our own plot was set two years ago this month, with two-year old plants obtained from a dealer, and the past season it gave a cutting of large shoots every other day. Full directions for planting have already been given in this volume, at pages 18 and 159, Jan. and July, Nos.

A GOOD JOB IN THE GARDEN.

We have annually recommended our readers to dig over their gardens in Autumn, throwing them into high ridges, and we are every year becoming more convinced of the value of this mode of treatment. A finely pulverized soil is of the first importance for any crop, and particularly for gardening. Jack Frost will certainly do the pulverizing faster, better and cheaper than it can be done by any other agency whatever, if you will only give him a chance at it. Before Winter sets in, spade or plow the surface into as high, narrow ridges as you possibly can. If possible make them three-feet higher than the bottom of the intervening furrows, leaving it like the following



Spading or plowing gardens and fields designed for any kind of Spring crops, affords very many advantages, which are specially manifested on clay lands. Prepared as above the, ridges freeze through, and in thawing crumble down; while the frost penetrates below the bottom of the furrows, and the whole soil is rendered pulverulent, and improved, and is enriched by the ammonia collected from snows, rains, and the air, during Winter.

There is generally more time for plowing in Fall, than in Spring when getting in the Spring crops, carting manure, &c., all crowd together. The teams are generally in better condition for work in the Fall than after passing through a long Winter.

Ground plowed in ridges, with deep open furrows between, dries out sooner, and on wet land several days may be gained, which is often enough to turn the scale in favor of a good wheat or other crop.

The action of frost is very important in destroying and pulverizing the mineral elements and thus reducing them to that fine impalpable state necessary to giving a good medium for the growth of roots. Much poisonous matter in the soil is destroyed, since the frost and air penetrates a double depth where deep open furrows are left.

The organic or vegetable matter, such as roots of plants, are decomposed more rapidly when subjected to freezing and thawing, as is the case when the ridged soil is more thoroughly exposed to frost. The roots of docks and other noxious weeds are more thoroughly killed out. Insects

that burrow deeply in the soil are killed by exposure to frost.

These considerations are enough, we think, to recommend plowing all heavy soils in Autumn, where it can be done without serious neglect in the sowing and threshing of crops already grown. Light, dry, sandy soils do not so strongly call for such Fall treatment, though we think any soil will be benefited. Let garden soils and those designed for high cultivation be deeply spaded now; but if necessarily omitted now, let it be done at the first opportunity, if it be not till an opening of the ground sometime during Winter.

CLEAN UP THE GARDENS.

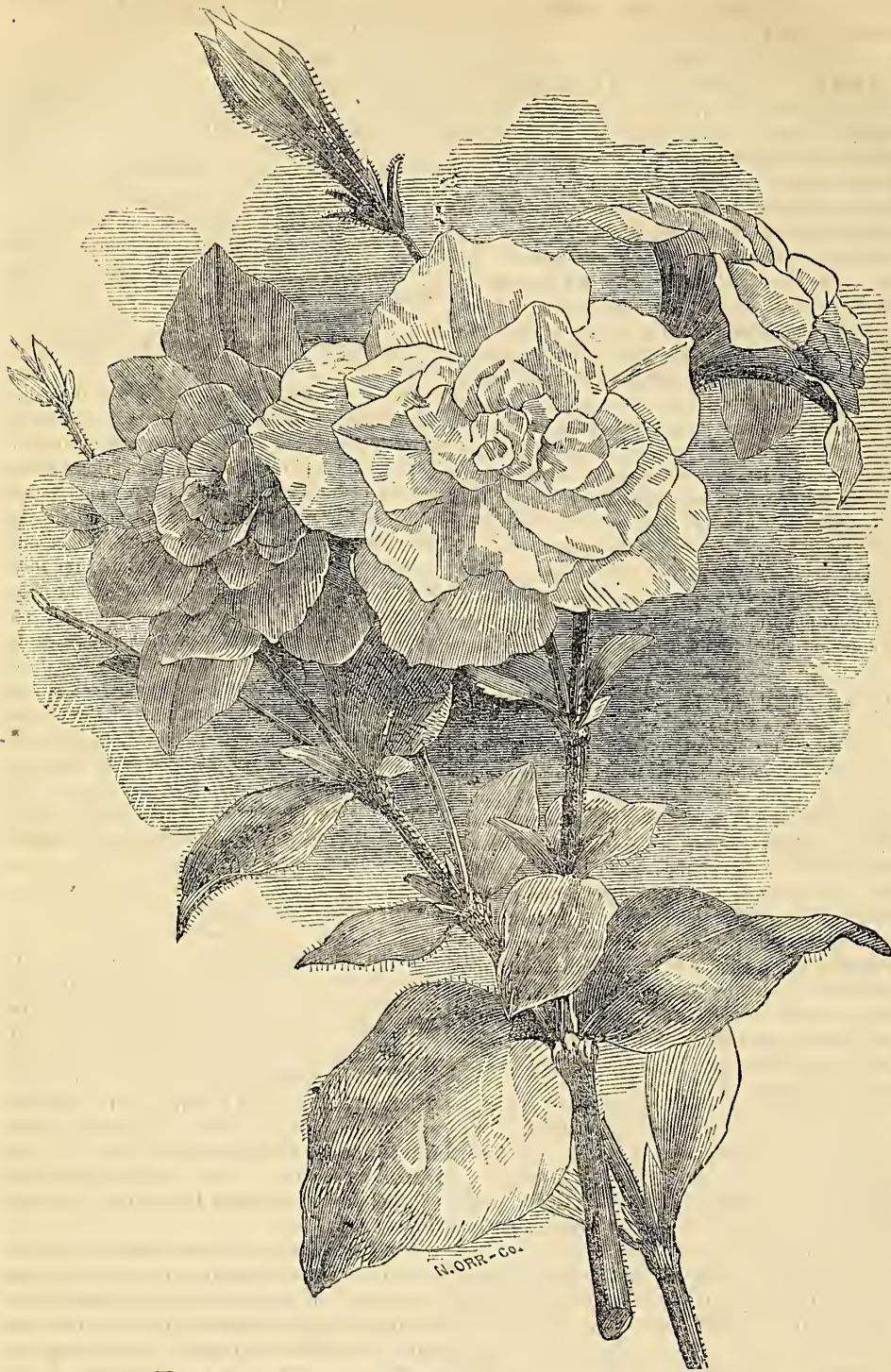
You may pride yourself—as we do—on showing a vegetable garden where there is not a single growing weed, but there will be any quantity of vines, stalks and rubbish from the various useful plants which will need to be gathered and piled in an out of the way, and out of sight heap, if you would not have an eye-sore to look out upon during all the Winter. It takes no more time to do this at the beginning than at the end of the Winter, and how much more neat and cheerful your garden plot and yard will appear, if raked entirely clean and smooth. It will be still better if, as we have elsewhere advised, the garden soil be thrown into uniform trenches, and all the rubbish buried beneath them. If by chance, or by negligence, any foul weeds have been permitted to go to seed, carefully gather and burn them. One weed stalk left to ripen on the ground, will add materially to the labors of the next and the following years.

DEUTZIAS.

This is an interesting and very beautiful family of plants, the different species coming into flower in succession from early Spring until after most other shrubs have completed their bloom. It is of "celestial" origin, the first specimen being brought from China, and named in honor of John Deutz, a distinguished botanist, and contributor to the expeditions to China and Japan. All the varieties thus far introduced here, like most plants from those countries, are found well adapted to our climate, proving perfectly hardy in the Northern States.

The Deutzia is of very easy culture, growing readily from layers, and from offsets or divisions of the root. It is also raised from cuttings, those from some varieties striking freely in the open ground, while others require the assistance of a cold-frame or green-house. Early in this month is a suitable time for transplanting the different species, and if this be done with care, they will bloom freely next Spring. The Deutzia *scabra* has been cultivated in this country for some years past, but what we now wish especially to recommend is the Deutzia *gracilis*, of recent introduction. As implied in its name, "gracilis," (graceful,) its branches shoot out into a slender delicate growth, covered in early Spring with a dense white bloom. The plant itself is of low growth, seldom reaching more than two feet in height, with small narrow leaves of a deep green, contrasting finely with its snow-white flowers. It forms a choice shrub for the open border, and is well adapted to Winter forcing in the nothouse, where it blooms in great profusion during the entire Winter.

The plants can be obtained at most nurseries for 37 or 50 cents each, and may be carried to any distance. Put them into almost any garden soil, and cultivate like the lilac and other flowering shrubs.



DOUBLE-FLOWERED PETUNIAS.

Most persons are familiar with single-flowered Petunias. Like the verbena they produce beautiful flowers during the entire Summer. These are white, purple and crimson, with all the intermediate shades. They can be raised from the seed, but do not thus grow true to the parent plant, and layers or cuttings must be resorted to in order to propagate any choice variety. The best time for increasing them for Summer plants, is early in Spring, when slips of young half-hardened wood are to be set in pots supplied with equal parts of loam and white sand well mixed, first filling the pots half full of potsherds or coarse gravel to preserve a good drainage. A bell or other glass must be placed over the cuttings, and care be taken in watering and ventilation to prevent their damping off. A dozen or two may be set in one pot. In the fore part of May, or as soon as all danger of frost is past, transplant in the open ground and they will soon commence flowering.

The plants are tender and require Winter pro-

tection. In Autumn, any choice plant desired for propagation, should be taken up, partly trimmed down, potted, and kept in a green-house or warm room until Spring, by which time a new crop of shoots will be produced for putting out. They will grow well in almost any soil. So much for the single-flowered.

Last year, for the first time we believe, a new variety—a double-flowered petunia—was produced in France called the *Imperialis*. One of these was taken to England, and a batch of seedlings raised by Mr. Grieves, the first season, by hybridizing the *Imperialis* with the best varieties of single-flowered, the result being a number of beautiful varieties, distinct in form and color, the color going through all the shades of crimson, purple and white. The cut above, representing two of these varieties, we have had engraved for the *Agriculturist*, from an original drawing, appearing in a recent number of an English journal, "The Field." The *Imperialis* has been brought to

this country, and so rapidly has it been propagated that single plants are already sold by Florists as low as 25 cents each.

This new Petunia, the *Imperialis*, is one of the finest floral acquisitions we have had for some time, among plants adapted for bedding out in Summer; nor is it less valuable for pot culture, from its superior habit and prolific flowering qualities. The flower is a pure white, perfectly double, stands clear of the foliage, and is very fragrant; and, unlike the single varieties, will be very useful for bouquets, as it does not soon wilt after cutting. The habit of the plant is very robust, vigorous, and much more compact than the single-flowered. It appears to grow and flower abundantly in ordinary garden soil, and we hope soon to have double flowers of all the varieties of colors common to the Petunia, introduced and offered for sale here.

There are a number of new varieties of the single sorts, some very beautiful, from the richness and novelty of their colors. One of these recently brought out in Baltimore, Md., and raised by a gentleman of that city, is very striking. It is of a purplish crimson color, with a broad band of green around the edge of the petal nearly half its depth. The green color is very rich and velvety in appearance, and forms a fine contrast. This is a very desirable sort. It is named "Domicilia," and will be for sale in the Spring of '53. It is rather delicate in habit.

THE NEW BLACKBERRY NAMED AT LAST.

Considerable discussion has been had respecting the name of the Blackberry originating at New-Rochelle, and we have been blamed for persistently calling it the "New-Rochelle" instead of the "Lawton," as named by the New-York Farmers' Club, whose authority to do so we did not, under the circumstances, admit. We have, in all cases, agreed to adopt any name that should be fixed by any respectable horticultural society having due authority to name new plants or fruits. In the proceedings of the Fruit Grower's Association of Western New-York, at their Rochester meeting, Sept. 18th and 19th, we find the following:

'C. B. Bissell stated that several persons in his neighborhood had abandoned the Dorchester Blackberry, from its unproductiveness. Mr. Downing being called upon to give the Convention the benefit of his experience with this fruit, stated that the New-Rochelle or Lawton was the largest and bore the best crops, the Dorchester was sweeter and of better flavor, but not so productive, and the Newman Blackberry was sweeter than either, but not very productive.

On motion of Joseph Frost, it was resolved, unanimously, that hereafter the New-Rochelle or Lawton, be designated as the New-Rochelle.

ONE OF DR. HALL'S SAYINGS.—In the N. Y. Journal of Health for October, '57, Dr. Hall, the editor, says: "The *American Agriculturist*—\$1 a year—gives a larger amount of *seasonable, reliable* agricultural information than any similar publication in the country." This is high authority, and the statement may be considered a truism, since it appears to be the universal sentiment, as well as expression, of the entire press of the country.

CURIOUS BUT INSTRUCTIVE EPITAPH.—In a New-Jersey grave-yard there is a plain stone erected over the grave of a beautiful young lady, with only this inscription upon it: "Julia Adams, died of thin shoes, April 17, 1839, aged 19."

Which is the oldest berry?—The elder-berry.

IN DOOR WORK.

Under this head we intend very soon to devote considerable space as well as attention to giving sound, practical instruction—not merely stale “recipes” passed along from journal to journal, year after year. The truth is, there are many important scientific principles directly applicable to the every day work of the kitchen and other domestic labors, and we have long desired to set before our readers, in plain, simple, easily understood language some of these principles. But it requires more time and thought to do this than to merely discuss general principles in the language of science, and we have been so constantly over-pressed with our editorial and publishing duties, that we have found no time to treat the subject as we have desired. But we fully intend to take hold of the matter in earnest during our next volume, and we promise our lady readers that their special department will be much more *instructive* if not more interesting than hitherto. For example, we say that in boiling fresh meats they should be put, not into cold but directly in hot water, except when designed solely for broths, in which case they should stand for a long time in cold or tepid water. Now there are plain chemical reasons for these directions, and there are similar reasons for a hundred other household operations, which may, we think, be made perfectly plain and comprehensible to those unlearned in the mysteries of science, and to the explanation and application of these principles we propose to devote a portion of these pages. For a month or two, however, we are compelled to defer entering so fully and systematically upon these topics as we shall do afterwards, and so we now only note down a few practical directions gathered from our own observations, and from the letters of correspondents.

SELECTING FURNITURE, ARRANGING ROOMS, &c.

To the Lady Readers of the American Agriculturist.

The cultivation of taste in household arrangements is a matter of no little consequence. Its moral influence is not small. It preserves the young from many temptations to low enjoyments, and renders home an attractive spot. Good taste may show itself quite as readily in a log cottage as in a fifth-avenue palace, and be equally attractive. I remember no dwellings with more pleasure than some of the vine-covered log houses of the West, and a very simple little cottage in New-Jersey, almost hidden in the loving embrace of roses, honeysuckles and grape vines. It does not require wealth to create home beauty. Refinement and delicacy of taste can invest the rudest home with charms that money alone could never furnish.

“Our yard is the prettiest yard in the block,” I heard some city boys exclaim, a few weeks since. “We have been on the roof of the house and have looked at every one.”

What was it that made that yard more attractive than the others? They were all fenced and painted alike, and differed only in what had been done in them a few hours in early Spring, and in a few minutes' attention, now and then, through the Summer. In the “prettiest yard,” the brown, close-board fence was covered with scarlet-runners, morning-glories, maderia-vines, and a wide-spreading grape-vine, and the borders were bright with verbenas, and a few “dear common flowers.” The taste of these boys had been cultivated, and they had learned to appreciate what many others

might not have noticed, and their home-happiness, and home-love had been increased by the simplest and most natural means. The influence of those few flowers and of the green, living drapery on the fence will never be lost. It will modify the whole life, and give a delicacy and a love of the beautiful that will grace their manhood as the vine graces the oak.

I have often been impressed with the wonderful sameness with which houses are furnished, as if, instead of consulting our individual wants and taste, we consulted the opinions and taste of others. A sofa of hair-cloth, and six mahogany chairs in black, seems to be considered almost essential where more showy and expensive furniture is not used, and then there must be a table with a marble top and a side-table or two, and a rocking chair, and these are too often arranged with mathematical precision against the walls, so as to destroy all idea of comfort and ease. Hair-cloth furniture, well made, is serviceable, but it is very sombre. A room furnished with it, unless relieved by bright colors in carpets and curtains, has a funereal look that is anything but cheerful. I much prefer cane, or rush seated chairs of prettier style. They are lighter to move, and more comfortable for use, than most stuffed chairs. Small figured carpets should always be selected for small rooms, for those of large figures diminish, apparently, the size of the room. Arm-chairs are preferable to rocking chairs for the parlor, for rockers are almost always in the way, and often do much injury to other furniture and to the house itself.

Furniture should be so arranged as to indicate that it is designed for use, and not merely kept for show. It should have a social, friendly air, as if on good terms with its neighbors and not afraid to meet on terms of equality. Do not arrange books on a table as if they were paraded for military display, and ready to be marched around with measured step at just the same distance from the edge. Books, it is to be supposed, are to be read, and they should lie about carelessly as if they had just been put down by a reader. I have a nice girl who attends to my parlors, but she is so very nice and orderly in her arrangements that the first thing I do on entering the rooms is to draw away some of the chairs from the walls, to give a cricket a push with my foot, and to scatter various piles of books, and remove the fan and paper knife from the central figure of the table cover. Excessive order is an unusual defect in girls; and one much more easily remedied than the opposite. I have no disposition to complain, for it is but a moment's work to change the frigid air to one of warmth and comfort. Pictures should be hung low enough to be easily examined—about opposite the eye—Let the picture cord correspond with the leading color of the room, or contrast well with it. Do not mingle colors in furnishing a room; have the walls and carpet, and curtains and furniture harmonize. Let there be a leading color and everything in agreement with it. If the carpet is crimson, green wood-color, the curtains may be of either color, but put up blue drapery and the handsomest parlor would be ruined. We can learn much of the effect of colors by a study of nature.

Do not select one article very much handsomer than the others. A velvet carpet calls for corresponding expense in sofas chairs and tables, while a pretty ingrain of good colors looks well enough for any country or city house of moderate pretensions. It is well to furnish a house so much within one's means as not to be constantly afraid that this and that will wear out, and can never be replaced. It is far better to be able to use and enjoy what we have and permit our chil-

dren to use and enjoy it, than to shut up a part of the house for weddings, parties and funerals.

ANNA HOPE.

CHAPTERS ON COOKING, &c.

Continued from page 210.

COOKING MEATS.

On this topic we shall continue to have much to say, so long as one half or more of all the meat used in the country is deprived of a great portion of its nutriment by cooking it wrongly. Without stopping *now* to give the reason, we say that all frying of meats is bad—decidedly bad. So of potatoes and other articles fried *in fat*. These substances are indigestible, and worse than in-nutritious. Broiling, roasting and baking, if not carried too far, are perhaps the best modes of cooking fresh meats of all kinds, and most kinds of fish. The difference in the taste, digestibility and nutritive value of a piece of beef-steak quickly broiled over a lively bed of coals, and the same piece fried in fat, can hardly be appreciated by those who have only practiced the frying mode, and this includes three-fourths of all the families in the country. If some one of our female contributors will give us a chapter of full details on *broiling* meats we shall be glad to publish it, otherwise we will try our hand at it, for there is much to be said on this topic. Reader, do you spoil fresh fish by frying it in lard, or preserve its flavor and sweetness by cooking it on the grid iron?

Boiling Corned Beef.—This is a staple food in a majority of families during several months every year, and in most cases the cooking may be greatly improved. The two chief errors are, *first* in not cooking it long enough, and *second*, in losing a large proportion of its real nutriment. We always prefer it prepared as follows: Soak in warm, not hot water just long enough to take out all excess of salt. Then cover it so that the steam will condense upon the under side of the cover and fall back. This will prevent boiling away and also the loss of much of the nutriment which in an open vessel goes off with the steam. Boil the meat several hours or until it is so thoroughly done that it will not hold together to be lifted with a fork. If there be any bones take them out, since if cooked enough the meat will cleave from them readily. Pack the meat by itself in a deep dish, mixing well together the lean and fat portions. Next skim the fat and boil the liquor down so that when poured over the meat it will just fill the spaces between the pieces. Then lay over the whole a flat cover which will fit into the dish, put on a dozen or twenty pounds weight and let it stand until cold. Several flat-irons or a large stone will answer for the weight, or if convenient it may be set under a cheese press. Prepared in this way, the poorest piece of tough corned beef will be made tender and juicy. Boiling down and using the liquid, saves the *most nutritious* portion which is usually thrown away. The gelatine of the condensed gravy, when cold forms a solid mass with the meat, which may then be cut into slices for serving upon the table. If the fat and lean portions be mixed, when cut up cold the pieces will present a beautiful marbled appearance. Corned beef prepared in this way will not only be eaten with a superior relish, but it will not, on account of its toughness, be swallowed half masticated to produce irritation in the stomach, and yield only a portion of its substance as nutriment. Over the common process, there is only the extra trouble of the additional boiling and pressing, which are amply repaid by the saving of nutriment, while a cheaper quality of beef will be rendered wholesome

and profitable. Try this mode and you will not willingly go back to the hard boiled "inevitable salt junk."

Mutton cooked in the above manner is very nice.

DRYING PUMPKINS AND TOMATOES.

As fruit is scarce in many parts of the Country, every house-wife should lay in a good stock of dried pumpkins and tomatoes. Pumpkins may be put up in the old fashioned mode of cutting into rings, paring and drying upon poles; or they may be cut into small pieces, and dried on plates in the sun and oven. A better plan, however, is to pare, stew and strain them, just as if for pies; then spread the pulp thinly upon earthen dishes, and dry quickly in a hot sun or a partially heated oven. If dried slowly there is danger of souring. Store in a dry room. Kept in this manner they retain much of the freshness and flavor of newly gathered fruit. The dried pulp should be soaked in milk for a few hours before using. In making pies they are greatly improved by stirring the pumpkin into scalding milk, especially if eggs be not used. Tomatoes may be kept in excellent condition by cooking, straining and drying just as described for pumpkins.

PICKLING CABBAGE.

We have used an excellent pickled cabbage, kept in perfect condition for half a year at a time, which was prepared thus: Slice the heads very finely. A head of red cabbage mixed with half a dozen white ones giving the whole a pretty color. Sprinkle on and mix in a little salt. Scald together, say one gallon of good vinegar, two or three tablespoonfuls of sugar, one tablespoonful of cloves, one of ground cinnamon, and a teaspoonful or less of ground black pepper. The cloves, cinnamon and pepper should be put into a bag while scalding. When cold pour the pickle over the cabbage, and also drop in the bag of spices. Keep the whole well covered, putting a plate over the cabbage to hold it down in the pickle.

SALTING DOWN LIMA BEANS.

A correspondent says that Lima Beans may be preserved a long time by gathering the pods when they begin to turn yellow, and packing them in kegs with alternate layers of salt. We imagine they would not be very good after this salting process. Perhaps the salt would not strike through the pods to injure the beans themselves. We have always kept them, by picking as soon as they can be shelled, and drying before fully ripe.

READY MADE YEAST.

Perhaps all our lady readers may not understand the best method of having good ready made yeast always at hand. We invariably have good bread made from yeast cakes prepared as follows: Put into three pints of water a handful of hops and nearly a quart of pared potatoes cut into small pieces. Boil for half an hour, and strain while scalding hot into sufficient flour to make a stiff batter. Stir it well, adding one tablespoonful of fresh yeast, and set into a warm place to rise. When light mix it stiff with Indian meal, roll out thin and cut into round cakes or square pieces 2 to 2½ inches in diameter. Dry these thoroughly and keep them in a bag in a dry place. They will remain good for months. Before using take one of these cakes for each medium sized loaf, soak in warm water till soft and add a teaspoonful of soda for three or four yeast cakes. Add this to the flour with warm water, and raise in the usual manner. Some put the light yeast without adding the Indian meal, into close jars or jugs, and use as needed. It will not keep many weeks by this method.

RHODE ISLAND PANCAKES.

Sometime since, D. Salter sent us the following, indorsed as very good; we should hardly call them pancakes: "To one pint of Indian meal and one pint of rye flour, two tablespoonfuls of molasses, 1 tea-spoonful of salt, 1 of saleratus, and 3 eggs, well beaten. Stir with these raw milk enough to make a stiff batter, and fry 10 minutes in lard, like doughnuts. When milk and eggs are scarce, we think the following is nearly as good: Mix well 1 quart of Indian meal, 1 quart of rye flour, 2 large table-spoonfuls of melted shortening, 5 table-spoonfuls of molasses, 1 table-spoonful of salt, a scant tea-spoonful of saleratus, and 1 quart of water. Fry as above.

TO COOK CAULIFLOWERS.

To the queries of A. M. Daniels, of Tioga Co., N. Y., and Jane M. Richards, of Iowa, we reply, that we have them cooked similarly to common cabbages, thus: Remove the leaves and tie the head or flower in a cloth, or cabbage bag, and boil in water until soft, which will require 1½ to 2 hours. Then remove from the kettle, press out the water, and serve a sweet cream gravy, or with drawn butter, that is butter melted in hot water and thickened with flour.

PICKLED BOILED CABBAGE.

Mrs. M. A. H. Rowe, of East Chatham, sends the following mode of pickling cabbages, which is indorsed by a good judge of our acquaintance: Look over the heads and wash them thoroughly. Cut into quarters and boil until tender. Then put down in layers in a tub, sprinkling upon each layer, salt, allspice and ground cinnamon, using 2 ounces of salt, and 1 ounce each of allspice and cinnamon, to 8 quarts of cabbage. When put down cover with vinegar. The boiling before pickling we think a decided improvement upon the common method of putting them down uncooked.

APPLE DUMPLINGS.

An old schoolmate, Mrs. E. M. Chalker, sends us, from Michigan, the following: Mix well together one well-beaten egg, one pint of good buttermilk, one tea-spoonful of salt and one of saleratus, with flour enough to make a stiff batter. Into well-buttered tea-cups drop half a table-spoonful of the batter, and set into each cup an apple pared, quartered and cored, with the quarters put together again. Now cover the apples with batter and set the tea-cups into a steamer over boiling water. Cook one hour. This appears to be a good recipe, and we shall have it tried.

FRITTERS.

Mrs. Chalker also recommends the following: Beat well together one egg and two table-spoonfuls of sugar. Add one tea-cup full of sweet milk, one tea-spoonful of soda, and flour enough to make the batter. Salt and nutmeg to suit the taste. Fry as soon as possible after mixing.

PICKLING AND KEEPING HAMS.

John Clackson, of Pike Co., Pa., recommends the following method. Lay them down in a preparation of seven pounds of salt, mixed with half pound of coarse sugar, one pint of molasses, and half ounce of saltpeter. Let them remain 4 to 8 weeks, according to their size, then drain, put into a paper bag and hang for a month in a chimney where a coal fire is kept. Pack away in barrels, with malt screenings enough between to keep them from touching each other. The other plan described by Mr. C. is not practicable, as the "essence of smoke" is a very variable article and cannot be relied on.

ABOUT FLIES.

E. Y. B., of Meriden, Conn, writes: I believe

there is no loyal road to the extermination of flies, which "Country Housekeeper" inquires after in the October *Agriculturist*, page 238; nor can they well be "destroyed in the egg," but the eggs may be in a great measure prevented. Let the same neatness exist in the surroundings of the dwelling, which is considered necessary to comfort within it, and there will be few flies to annoy one. And as a matter of economy this should be attended to, for, while guano is \$60 a ton and more, no one can afford the wasted ammonia to breed and feed a hundred flies. Keep the contents of the yard composted, the sty well "mulched;" all other out-buildings deodorized, have a cistern for all sink water, look well to the melon rinds, and other debris of that sort, and this fly nuisance will be greatly abated. Remember, he is pursuing a bad system of farming who raises many flies.

HOME-MADE CORN STARCH.

In answer to our Kansas subscriber's inquiries, A. B. Price, of Boone-Grove, Porter County, Ind., sends the following to the *Agriculturist*: Take the ears when full of milk, grate fine into water, in a tub; strain off the husk, &c., through flannel; let the strained water stand all night, then pour it off, or strain it off if necessary; add more and clean water to the starch, with a little indigo to suit taste; let it stand about half a day, then decant off the water, and dry in the sun as soon as possible. We make all our starch in this way, and we think it worth twice as much as any we can buy.

REMARKS.—This will do well for using unripe corn; the sample sent to us is apparently very good. But a simple, cheap process for using dry ripe corn is desirable, for some of the remote settlers in frontier towns, where, from the difficulty of getting articles to or from market it is necessary to manufacture every article possible. Starch, however, is not one of the "necessities" in such localities.

Our Kentucky Correspondent "Mrs. C. H. P." contributes the following four recipes:

TO MAKE STARCH IN QUANTITY.

Take a bucket full of wheat, and put it in a barrel with 2 or 3 buckets full of warm water; set it in the sun or a warm place, till it gets a little soft, then pour off the water. With a maul pound and mash the grains as much as you can then add more warm water, or let it set till it ferments, pounding it often, till the bran comes off; then rub it through a colander and sieve; wash and strain it through flannel-cloth—blue it, pour off the top for starch for calicoes, and you will have a large quantity of nice starch settle at the bottom.

GREEN TOMATO CATSUP.

Slice large green tomatoes, salt them as for the table; boil them 20 minutes in vinegar and water in which there has been put a pound of sugar; take them out and put a layer of tomatoes, then pepper, spices, horse-radishes, mustard, onions, &c., to please your fancy—then pour on cold strong vinegar to cover them, then put another layer of tomatoes, spices, vinegar, &c., till the jar is full—it is now fit to use.

TO DYE A BRIGHT AND LASTING YELLOW

Summer your hanks of yarn in strong alum water; then put a layer of peach tree leaves in a tub, then a layer of yarn, then leaves, till all are in; then pour over them the boiling hot alum water to cover them; let it set all night; wring out and air it; then heat the dye and put in fresh leaves with the same yarn, in lavers, and pour over the hot dye for several days, wring it each day till you get it the shade you like. Set it with

strong suds. This makes a fast color that grows brighter by washing in strong suds.

TO SCOUR MERINO WOOL.

Have ready two strong hot suds, and wash the wool quickly through them by drawing the wool through your hands, as you do a hank of yarn without rubbing; wring dry; hang on a line and it will not be matted. Put no soap on the wool; keep the suds hot. It is cold suds and rubbing soap on that fulls flannel and wool.

NOTES UPON VALUABLE BOOKS.

[*Furnishing Books.*—Though Book selling is no part of our business, yet to accommodate distant subscribers or those not having access to regular book-sellers, we will at any time be happy to procure any book desired by a subscriber, and forward it, *post-paid*, on receiving the retail price, as publishers usually allow us discount enough to cover the cost of mailing.]

A Valuable New Work.

CLIMATOLOGY OF THE UNITED STATES, and of the Temperate Latitudes of the North American Continent, embracing a full comparison of these with the Climatology of the Temperate Latitudes of Europe and Asia, and especially in regard to AGRICULTURE, Sanitary Investigations and Engineering, with Isothermal and Rain Charts, for each season, the extreme months, and the year, including a Summary of the Statistics of Meteorological Observations in the United States, condensed from recent Scientific and Official Publications; By LORIN BLODGET. Philadelphia; J. B. LIPPINCOTT & Co. Price \$5.

We have copied the above title page to give our readers an idea of the comprehensive and valuable character of a work to which we would direct their special attention. It would be impracticable, in this place, to review the work at large. Suffice it to say that the analysis above, gives but a limited view of the great amount of useful information afforded. Full statistics of the temperature at all seasons, of the quantity of rain and snow falling, of the prevailing winds, of the range of staple crops, &c., &c., are given for almost every prominent point in the United States and Territories. A dozen or more colored charts, bring at once before the eye, the comparative amount of rain, range of temperature, &c. Half-a-dozen inferior books, costing a dollar each may well give place to this in the library. We shall refer to this work hereafter, and draw from its pages much useful information relating directly to the specific topics discussed in this journal.

Fruit Books—Central Park of N. Y. City.

FRUIT AND FRUIT TREES OF AMERICA, or the culture, propagation and management, in the Garden and Orchard, of Fruit Trees generally; with descriptions of all the finest varieties of Fruits, Native and Foreign, cultivated in this Country. By A. J. DOWNING, Revised, corrected and enlarged by CHARLES DOWNING. New-York, WILEY & HALSTEAD; 760 pages; Price, \$1 50.

Fruit books are becoming "as plenty as blackberries." Each Nurseryman naturally desires to make his name famous, to see himself in print, and thus to sell his trees to his customers, and his fame to posterity. And indeed many of these evince much talent, for we have always thought it more difficult to compile than to write originally, to gather the relics of all, and accept the blunders of none, to translate the best French books on training, and the best Chinese on dwarfing, only with becoming modesty, not acquainting the public that you are able to read any other language than your own. We do not wish to place these compilations in oblivion, but we are glad they were published before the book under notice came out, on the principle of the consoling remark made by an old gentleman to a damsel who was sobbing bitterly over the marriage of a favorite sister,

"Not lost, my dear, but gone before."

The field is now clear and this really good work will be appreciated. Last Spring, in writing a notice of one of the above mentioned fruit books, we remarked incidentally that "if Charles Downing, who has more pomological knowledge, and more modesty, than belongs to most fruit men, could be induced to bring his brother's book, about down to the present time, we should probably have all that we specially need now on this subject." We did not then know that he was employed upon it but threw out the idea as a suggester and were agreeably surprised to receive this book from the publishers.

Since the death of the lamented author, the general estimate of many varieties of fruit has materially changed, as time has more thoroughly tested them. In these, this work has been thoroughly revised. Synonyms have also been ascertained, and disputed varieties identified. Some varieties which have proved poor have been placed in an inferior list, and others which have proved worthless have been rejected entirely. This book is therefore in our opinion, the very best work on fruits that

we have, and for the Eastern and Middle States, will doubtless be considered an authority which the multitude of other works can not claim.

We are glad to notice the following remark on fruit nomenclature. "Order and accuracy can only be arrived at when the different varieties are well grown in the same soil and locality, which can only be realized in an experimental garden on a large scale." It would be a great boon to the country, if such a garden could be established by any corporation having the means to do it properly. The Central Park Commissioners of this city, have it in their power to do this by devoting a number of acres to the purpose and placing it under the charge of a man like Charles Downing. New-York is already the Metropolis of America, it will soon be the Metropolis and moneyed center of the world. Would it not then, years hence, be an object of great interest to the travellers who for business or pleasure, or instruction will through our thoroughfares and say to each other that, beyond all the theaters and palaces of trade and private mansions, and galleries of art, is that Central Park of more than 700 acres, where may be seen all the trees and fruits which are known in every temperate climate in the world. Notes made by a man like Chas. Downing in such an establishment would be accepted by the world as authority, and an aid thus given to the cultivators of good fruit which the Central Park Commissioners can scarcely realize until the result is before them. Let us then, by all means have a Pomological garden in the Central Park.

McMAHON'S AMERICAN GARDENER'S CALENDAR, adapted to the climate and Seasons of the United States; containing a complete account of all the work necessary to be done in the Kitchen Garden, Fruit Garden, Flower Garden, Orchard, Pleasure Ground, Vineyard, Nursery, Green-House, Out-House and Forcing Frames, for every month in the year, with practical directions and a copious index, by BERNARD McMAHON. Eleventh Edition, with a memoir of the author; revised and illustrated under supervision of J. JAY SMITH. Philadelphia. J. B. LIPPINCOTT & Co.—637 pages. Price \$2 00.

We scarcely need refer to this old standard work further than to say that a new edition materially improved has just been issued. It is the best work of the kind in the country, and can hardly be dispensed with by those interested in the practical operations of gardening.

OUR BASKET

Into which are thrown all sorts of paragraphs—such as NOTES and REPLIES to CORRESPONDENTS, with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources.

TO CORRESPONDENTS.—Notwithstanding our increased space, the basket is unintentionally crowded into small compass this month. A multitude of notes, extracts, etc., are waiting room here and elsewhere. Among these are letters from Mrs. L. A. M., Iowa; Mrs. P. E. G., Pa.; D. C., Md.; F. R., N. C.; W. H. M., Pa.; S. A. B., Ohio; D. B., P. M., Pa.; E. S. J., N. Y.; and others.

Apples—Rotting.—W. B. Morgan, of Gihson Co., Tenn., will probably find upon examination, that most of his apples which rotted prematurely upon the tree, were preyed upon by insects. The best preventive will be a removal of the cause by cooking all diseased fruit to destroy what worms are left, examining and scraping off the rough bark of the tree, crushing or burning every web or cocoon containing the embryo parent of a future crop of worms. For fuller directions, see pages 135 and 170, of the June and August *Agriculturist*.

Mice vs. Trees.—Jas. Noakes, of Onondaga Co., N. Y., recommends the following plan to keep mice from gnawing trees, which he has practiced in England, with success. Get the common tea-chest lead, which can be bought for a trifle at the grocery stores, and cut into strips 10 inches wide, and long enough to go around the tree. Dig away the earth around the trunk an inch deep, put around the lead and return the earth. There is no need of tying, and the lead sheets can be taken up in the Spring and kept for subsequent years.

Sugar Cane Seed—Thresher.—A correspondent furnishes the following description of a simple hand machine for threshing a small quantity of sugar cane seed: "Make it on the principle of the common grain thresher. Let the cylinder be of slats of moderately hard wood, one-and-a-half inches thick and six inches wide. Through these strips drive strong nails or spikes so that when they are fastened to end pieces in the form of a drum these spikes projecting through the outer surface shall form the teeth of the machine. This cylinder may be two feet long and eighteen inches in diameter, revolving upon a central rod of iron or wood. Prepare a similar circular bed for it to work in, arranging the teeth with reference to those of the cylinder. By attaching a band to wheels or pulleys made with reference to getting a rapid motion on the drum and attaching a pin or crank to the smaller pulley. The whole being fitted in

a simple frame, you have a cheap machine that will take out the seed much faster than a hetchel arrangement."—We suspect such a machine would break the tender seeds, unless the nails fitted pretty evenly and were rounded at the corners. An old fashioned flax or broom-corn "hetchel" is, perhaps, the best thing after all. See one described on page 57 of this volume, March number.

Saw-Dust.—D. Heston, Cecil Co., Md. If you have an abundance of muck, it will doubtless be good economy to save all the saw-dust possible and mix it with yard manures. It is not so good a fertilizer as muck, as it contains less nitrogenous matters, but is a good absorbent, besides furnishing a little nutriment. No saw-dust should be allowed to run from the mill-tail. If not wanted in the stables and manure heaps, as it usually is, it should be carefully saved as a mulch around fruit trees, on straw berry beds, &c. It is not possible to make a direct comparison of saw-dust, bulk for bulk, with other manures.

Italian Rye-Grass.—G. C. Lyman, Susquehanna Co., Pa. This grass, which yields such large crops under Mr. Meehi's high cultivation, is fast gaining favor in this country. A seedsman in this city has contracted for 100 bushels, to arrive in season for Spring sowing, showing a demand for it. It is a tall, quick-growing, perennial grass, seeding itself at the time of harvest. When fed off it starts rapidly, and grows till late in the Fall. One or two years will thoroughly test its adaptation to our climate.

Early Potatoes.—Geo. W. Robinson, Onondaga Co., N. Y. Your inquiry for the best variety under all circumstances, can not be answered directly, since a variety the best in one place may not be so in another. You will find the Long-Islanders' experience on page 253 of this number. There are many new varieties or seedlings constantly coming before the public, few of which prove good. In our own experience during the past two Summers, the Prince Alberts have excelled most if not all others. See page 102 of this volume, May No. We can judge better when this year's crop is gathered. If they meet our expectations we shall distribute all we have among our subscribers free, sending a peck or so, to be distributed at each of those points where our largest clubs are located.

Flowering Bulbs.—Several ladies inquire where these can be obtained. They will find them in most seed stores we believe. Mr. Bridgeman advertises a fine assortment. See page 270.

American Institute Exhibition.

This is in full tide at the Crystal Palace. The display of articles of interest to all is much larger and better arranged than we have ever seen exhibited before this association. A day or two, or three, at the Crystal Palace can be passed now with great profit by every one who can possibly get there.

FOR THE BOYS AND GIRLS ONLY.

For the American Agriculturist.

Where is New-England?

I once had occasion to purchase some wall paper for friends in New-England. They sent for a particular style, which I ordered as directed, but which when received by them proved to be of two different shades of color. A year or two afterwards I selected some at the same place for our own pleasant country home. The store where I made these purchases does both a wholesale and retail business. After I had decided upon a pattern that suited me, I said to the salesman, "Be careful that you put up all the rolls of the same shade. I once purchased paper here for friends in New-England, and it was of so different shades that it could not be used for the purpose for which it was bought."

"New-England, New-England," said he inquiringly "Where is that place? I never head of it before."

I was so astonished that instead of attempting to tell him where New-England is, I merely said, "It was sent to New-Hampshire."

"I believe I have heard of that place," he replied, in half doubting tones.

I was certainly surprised to find such ignorance in a wholesale store in New-York, and especially in an individual whom from various circumstances I supposed to be a member of the firm. I can not by any means conclude that such instances are common, but I doubt whether there is any boy or girl who reads the *Agriculturist* who would have asked the same question, or confessed similar ignorance.

The season for field labor on the farm is almost over and boys have leisure for study. The Winter months are golden months, in the farm house, for then particularly is the time for mental improvement, and for laying up treasures in the intellectual store-house, which shall last long after those in the granary have been consumed.

Industry in the Summer, with God's blessing, brings

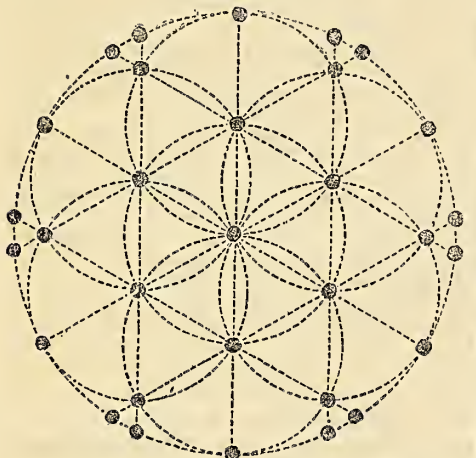
competence and comfort for Winter—so industry in childhood, in the cultivation of the mind and heart, brings with it self respect, mental stores, and influence, and respectability in manhood. We are often told that childhood is the seed-time of life, and no one can better appreciate this idea than those who know practically how important it is that seed should be cast into the earth in its appropriate season. The wise man tells us that "an idle soul shall suffer hunger," and that "the sluggard who will not plow by reason of the cold, shall beg in harvest, and have nothing." There is a hunger of the mind more fearful than that of the body, and a poverty more terrible than that which results from a want of physical good. The body stunted in youth never attains its full proportions—it is always dwarfed—so the mind starved in early years always bears the mark of its deprivations. Remember this, children, and lay up for yourself treasures that wax not old, but which once yours are always yours. Improve the coming Winter months by diligent study. Learn to think, and to write, and to speak your thoughts. Lay a good foundation for your future life. Geography is one of the most interesting and useful of studies, and without thorough knowledge of it you can not read even the newspapers with advantage. Look out on the map, every place about which you read, and never consider it too much trouble to do so. Be not an intellectual sluggard. Remember that many of the wisest and greatest men of our country have been farmer's sons, and prepare yourselves to be an honor and a blessing to our beloved land. The Winter is pre-eminently your seed time. Let it not pass by unimproved. I should be sorry to think of any of you as one half as ignorant as the New-York salesmen.

ANNA HOPE.

ANSWERS TO PROBLEMS IN OCTOBER NUMBER.

The following is the report of all correct answers received up to October 17.

No. 11.—To plant 31 kinds of flowers, one of each kind, so as to have 18 varieties in one circle; 7 circles with 6 varieties in each, 6 straight rows with 6 varieties in each and 3 straight rows with 5 varieties in each.



As remarked last month, this will make a pretty flower bed if smaller plants are put where they come nearest together. No one has furnished a correct answer except the proposer, "Rusticus," of Corsica, Morrow Co., O. Master "Fourteen," of Auburn, N. H., sent one almost like it, and equally as pretty, which we have put aside for using at some future time.

No. 12.—By Serenus Raesly, Northampton Co., Pa. There are two equal circles, each containing an area of 1963½ square feet. The centers of these circles are 30 feet apart. What will be the cost of paving with pebbles the space between them; that is the space, enclosed by two lines drawn to touch the outside of the two circles not including any of the ground in the circles themselves; the cost of the paving to be reckoned at 4½ cents per square yard?

A useful problem, but no answer received yet.

No. 13.—Suppose all the gold obtained from both California and Australia, to amount to \$500,000,000, how large a box would it take to put it all into, supposing gold to be worth \$18 per avoirdupois ounce, and reckoning it to be 19½ times heavier than the same bulk of water. A solid or cubic foot of water weighs 62½ pounds. The length, breadth and height of the box to be equal.

Several answers to this were received, but only one, from Joseph H. Simpson, Arisp, Ill., is correct. John Miller, of Harmony, N. J., gave the required number of solid feet, but not the size of the cubic box. As the working of this problem will furnish a very useful arithmetical exercise for boys and girls, we will not give the correct answer now, but leave it a month or two for others to practice

upon, as many—all we hope—are engaged in studying arithmetic in the Winter school. It would only require a very small house to hold all the gold in the country if melted into a solid mass.

No. 14.—11 trees in 11 rows, with 3 trees in each row. We are surprised at receiving eight solutions of this problem, all different and yet all correct. We could only engrave the first two received.

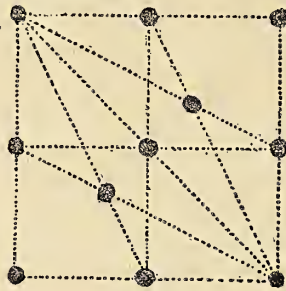


Fig. a was contributed by Chas. M. Foulke, of Bucks County, Pa.

Fig. b, by J. Rankin, Albany, N. Y. The other correct figures were sent by "Fourteen," of N. H.; A. M. Daniels, Tioga Co., N. Y.; Francis M. Vancil, Macoupin Co., Ill.; Susan C. and Roswell D. Gould, LaSalle Co., Ill.; Joseph H. Simpson; Charles Lamkin jr., Seneca Co., Ohio; Serenus Raesly, Northampton Co., Pa.; Samuel Ring, Ring's Mills, O.; Jno. Miller, Harmony, N. J.



No. 15.—9 trees, 10 rows with 3 in each row.



Miller, N. J.

This figure was sent in by Addison Uline, Rensselaer Co., N. Y.; Susan C. and Roswell D. Gould; Samuel Ring, O.; "Fourteen," N. H.; Serenus Raesly, Pa.; Francis M. Vancil, Ill.; N. Lounsbury, Tioga Co., N. Y.; D. L. W., Beacon Falls; Arthur M. Daniels, Tioga Co., N. Y. A different but correct drawing by John

No. 16.—To plant 15 trees in 16 rows, with 3 trees in each row, and also to have 2 rows with 4 trees each, and 1 of 7 trees.

The printers spoiled this problem on page 234 by putting 2 in place of the last 1 in the last line. We repeat it, and will wait for more answers before giving an engraving.

No. 17.—To fill 64 squares, 8 each way, with the figures 1 to 64 so that each column should add up 260.

1	2	3	4	5	6	7	8
16	15	14	13	12	11	10	9
17	18	19	20	21	22	23	24
32	31	30	29	28	27	26	25
33	34	35	36	37	38	39	40
48	47	46	45	44	43	42	41
49	50	51	52	53	54	55	56
64	63	62	61	60	59	58	57
260	260	260	260	260	260	260	260

Answered by Arthur M. Daniels, N. Y.; H. B. Hoffman, N. J.; Serenus Raesly, Pa.; "John of Center." See new problem, No. 19.

No. 18.—How much wheat shall I carry to mill in order to bring back 10 bushels after being tolled one-tenth?

Ans.—Eleven and one-ninth bushels. Answered by J. Miller, N. J.; Alfred H. Brown, Worcester Co., Mass.

Joseph H. Simpson, Ill.; Arthur M. Daniels, N. Y.; John of Center; Stephen J. Burton, Rensselaer Co., N. Y.; R. Doyle, Two Rivers, Wis.

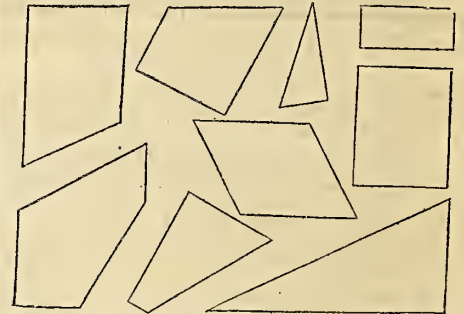
Additional answers to Problems 7, 8 and 9, have been received from Edna J. Kellogg, Oswego Co., N. Y. (No. 7), Jas. R. Dowling, Marietta Co., O. (Nos. 7, 8 and 9); P. H. Baker and D. Sturges, Mieh. (No. 7); and George H., La Petra, Oakland, Ohio (the drawings of the trees and especially of the weights well done).

NEW PROBLEMS TO BE SOLVED.

Note particularly Problems 12, 13 and 16, still open for answers.

Prob. 20.—R. Doyle and Adria Annah Oliver, arranged the figures in the squares of No. 17, so that they add 260 both up and down and across. Who else can do the same?

Prob. 21.—To arrange the pieces in the following figure, so that when set close together they shall form a perfect square.



Send a drawing of this figure, and also one of the square with the pieces properly arranged in it. This is a new puzzle. To solve it, make a larger drawing like the one here given, on a piece of paste-board or on a card, then cut it up into the blocks indicated by the lines, and arrange the pieces so as to form a solid square.

The Garland of Wild Flowers.

Here is a beautiful gem which we find in Chambers' Edinburgh Journal.

These be simple flowers, lady, that I have culled for you;
For in no lordly garden or gay parterre they grew
But on the dewy field-bank, where the poorest child may roam;
And fill its lap with treasures, to bear exulting home

Any little country maiden can call you these by name,
I can not bring you rarer, since no foot of ground I claim;
But wide and rich is the domain I share with millions more;
Old England's meads and cornfields the garden of her poor.

For while man sows "the staff of life," unseen a higher hand
Is strewing gems of beauty to gladden all the land.
The farmer calls them worthless weeds; but He sends sun
and rain,

Till many a hued they blossom amongst the golden grain.
So do not scorn them, lady, these humble, God-sown flowers—
Oh! they were lovely once to you in childhood's guileless
hours—

So rather humbly join in praise to Him who thus has given
T'rich and poor alike, a boon of beauty straight from Heaven.

Who Stole the Bird's Nest?

BY MRS. L. M. CHILD.

The following lines have we hope been read and felt by every boy in the country, but lest even one boy has failed to see them, and also because they are pretty enough to bear even a hundredth perusal, we make room for them here, omitting the repetition of the question before each answer, originally written.—Ed.]

To whit! to whit! to whee! Will you listen to me? Who stole four eggs I laid And the nice nest I made!	Cluck, cluck, aid the hen, Don't ask me again, Why I haven't a chick Would do such a trick. We all gave her a feather, And she wove them together. I'd soon to intrude On her and her brood.
Bob-a-link! Bob-a-link! Now what do you think? Who stole a nest away From the plum tree to-day?	Chirr-a-whirr! Chirr-a-whirr! We'll make a great stir! Let us find out his name, And all cry for shame.
Not I, said the cow, moo-oo! Such a thing I'd never do, I gave you a wisp of hay, And did not take your nest away. Not I, said the cow, moo-oo! Such a thing I'd never do.	I would not rob a bird, Said little Mary Green; I think I never heard Of anything so mean.

Not I, said the dog, bow wow!
I wouldn't be so mean, I vow;
I gave the hairs the nest to
make,
But the nest I didn't take.

Not I, said the sheep: oh, no,
I wouldn't treat a bird so;
I gave the wool the nest to line,
But the nest was none of mine
Baa, baa! said the sheep, oh, no,
I wouldn't treat a poor bird so.

'Tis very cruel, too,
Said little Alice Neal,
I wonder if he knew
How bad the bird would feel?

A little boy hung down his head
And went and hid behind the
bed;
For he stole that pretty nest
From poor little yellow breast;
And he felt so full of shame,
He didn't like to tell his name.

Condensed Reports of Experiments with the Chinese Sugar Cane.

Name of Experimenter.	State.	County.	Latitude	Soil.	Manure.	Planted about	Headed out about	Height at time of heading.	About the time of ripening.	Height at time of ripening.	Diameter of foot in ground.
1. Wm. Wanzer	Conn.	Litchfield	41° 30'	Sandy loam	None	May 25	Sept. 1	9 feet	Killed Sept. 30	12 feet	1 inch
2. Wm. Crocker	N. Y.	Erie	43°	Sandy loam	Plaster	May 20	Sept. 24	7 "	Killed Oct. 1	11 "	"
3. Thomas R. Joynce, jr.	Va.	Aecomac	38°	Sandy loam	None	April 7	Aug. 15	10 "	Ripe Sept. 15	14 "	"
4. William J. Tracy	R. I.	Providence	41° 30'	Light sandy loam	Hog-yard	May 20	Aug. 30	10 "	Killed Sept. 29	12 "	"
5. Howard Williamson	Pa.	Chester	40°	Slate, subsoil porous	None	May 9	June 15	10 "	Ripe Oct. 15	12 "	"
6. Hubert Greaves	Ohio	Sandusky	41° 30'	Rich, black, stiff loam	None	June 15	Sept. 12	12 "	Ripe Oct. 15	13 "	"
7. William Chase	R. I.	Providence	41° 30'	Sandy loam	Stable	May 15	Aug. 31	12 "	Ripe Oct. 15	13 "	"
8. A. W. Russell	N. Y.	St. Lawrence	44° 30'	Sandy	Barn-yard & leach'd ashes	May 29	Oct. 5	8 1/2 "	Ripe Oct. 15	10 "	"
9. J. Selden, by John Hall	Pa.	Pike	41° 30'	Sandy gravel	Sod-leached ashes in hill	June 5	Sept. 17	10 "	Killed Sept. 29	10 "	"
10. J. Selden, by P. Grimes	Pa.	Pike	41° 30'	Damp loam, shelly sandstone	None—old garden.	June 1	Sept. 18	10 "	Killed Sept. 29	10 1/2 "	"
11. Daniel Colklesser	Md.	Washington	39° 30'	Sand, rubbage, &c., well rotted	None	May 15	Aug. 15	10 "	Ripe Sept. 25	12 1/2 "	"
12. Alfred H. Brown	Mass.	Worcester	42° 30'	Rich garden loam	1 stable, 1/2 ashes & plaster.	May 26	Sept. 20	5 1/2 "	Killed Sept. 30	11 "	"
13. C. P. Vancil	Ill.	Sangamon	40°	Black loam	None	May 16	Sept. 15	10 "	Ripe Sept. 14	11 "	"
14. S. Sayer	Ohio	Cochocoton	49° 30'	Sandy loam	A little barn-yard	May 15	Sept. 15	10 "	Ripe Sept. 15	12 "	"
15. Dr. S. S. Keene	R. I.	Providence	42°	Clay loam	Barn-yard	May 22	Sept. 6	10 "	Cut Sept. 29	11 "	"
16. John A. Bunce	Wis.	Juneau	43° 30'	Sandy loam	None—new land.	May 27	Oct. 12	12 "	Ripe Oct. 15	11 "	"
17. R. Cramer	Ill.	Mercer	41° 30'	Sandy loam	None	May 23	Aug. 28	11 1/2 "	Ripe Sept. 24	14 1/2 "	"
18. A. B. Price	Ind.	Porter	41° 30'	Sandy loam, rich prairie	None	May 12	Aug. 28	11 1/2 "	Ripe Oct. 12	12 1/2 "	"
19. O. M. Colkins	Ind.	Spencer	41° 30'	Sandy loam	None—an old fence row.	M. I.-J. 1					
20. S. C. Pruden	Iowa	Van Buren	43° 30'	Prairie loam							

Extracts from Letters accompanying the Above.

- Soil, stiff sod of couch grass, formerly occupied by trees. The cane cut immediately after frost (the seed beginning to turn brown), and made into syrup.
- Yellow corn on land adjoining—barely ripened.
- I consider Sorghum of great value as a forage crop; shall plant five acres next year.
- Not killed, but growing well October 5.
- Season remarkably damp and cold. Some stalks, stripped, peeled, cut, pounded and boiled, pressed and strained, and boiled down, yielded 1 gallon of good molasses from 25 to 35 canes. The refuse eaten readily by hogs.
- Good molasses (3 1/2 pints from 37 canes) obtained by method similar to No. 10. Hogs very fond of the bagasse.
- Seeds merely formed—not more than half matured when frost came.
- Continued ripening up to October 8, at which time it was uninjured by frost, though Indian corn had been partly killed. Planted *Agriculturist* package in 48 hills; from 38 hills made 2 gallons of good syrup, extracted by pounding stalks and boiling in water.
- Seven canes yielded 3 1/2 quarts of juice, which gave 1 pint of good thick molasses.
- September 29, the cane was not injured by a frost which killed the corn-blades.
- From the *Agriculturist* letter-package of seed sent me I have raised half a bushel of seed. With a rude set of rollers, I obtained 1 gallon of syrup from the juice of 30 stalks.

How Promises the Chinese Sugar Cane?

Above we present a few regular reports, such as we called for last month. Many write us that they have not the necessary dates and figures. We hope, however, to get a larger number of statements to insert in this table by next month. It will be seen that, with a sufficient number of such reports from every section of the country, we can draw valuable general conclusions of the length of time required for the growth of the plant, the best soils and manures, the probability of its maturing in different latitudes, &c. Let us have as full reports as may be. In sending in renewals of subscriptions or new subscribers, please inclose a separate slip for the above table.

By our next issue, we shall have some valuable statements of full and accurate experiments regarding the saccharine properties of this new plant. We have never been over sanguine of the results, and have constantly advised our readers to caution in making large outlays in its cultivation, though we have encouraged moderate experiments, and have furnished a large amount of seed for this purpose.

The prospect that the Chinese Sugar Cane will prove valuable is now better than it has ever before appeared to us. Whether it will produce sugar is still unsettled. That good syrup and alcohol for manufacturing and other purposes can be made from it profitably in this latitude and still further North is now pretty well determined. Interesting statements of experiments now in progress in New Jersey and elsewhere will be ready for our December number. We have but just commenced operations upon our "Long Island Sugar Estate" (one large acre!) and the sweetening is being turned out at apparently a promising rate. But of this hereafter.

Hard Times, Hard Times,

Is the constant cry all around us, but thanks to an appreciative class of readers, this journal is on too firm a basis to materially suffer from the "times." Not a dollar of the funds belonging to the subscribers—belonging to them because paid in by them to meet its expenses through the year—we say not a dollar has been frittered away in wild stock or land speculations, but every dime has been securely invested where it would be surely forthcoming

when needed to meet current expenses. Let what money panics will come, our readers may depend upon always finding the "latch string out" at our office door; and if Uncle Sam's mail boys do not "suspend," each one may always look for his, or her paper promptly at the regular time.

"A BAKER'S DOZEN."

Not now, but in the "good old times," there were bakers who sold nice cakes at one for a penny, but when six pennies were paid, seven cakes were given, and fourteen for twelve pennies; hence arose the term Baker's Dozen, that is, fourteen to the dozen. It is said that even now, some bakers treat new customers in the same manner.

Be that as it may, we propose to treat our NEW SUBSCRIBERS in this way, that is to say:

All new subscribers for 1858 (Vol. XVII.) who send in their subscription during this month, November, will receive the November and December copies of this year without charge.

We make this offer for two reasons; first, as a sort of premium, or extra inducement; and second, we wish as many as possible to become acquainted with the *Agriculturist* before the commencement of the next volume, so that they may be ready to speak of it to their friends and neighbors, and perhaps thus bring them along to enjoy the valuable feast of fat things in store for all readers of this journal during 1858.

This offer extends to all new subscribers for 1858, received this month, whether they come singly or in clubs, or through voluntary agents—we have no agents but but those who act as such of their own free will, and there are hundreds among our present subscribers who have volunteered to do this, and thousands, we trust, of others, who will act thus, without having promised. Is it not so?

This offer only extends now to subscribers received during this month, except at very distant points, where this number does not arrive in time to forward new names before the close of the month. Last year we printed 6,000 extra copies for a similar offer, but the supply ran out before the last forwarded names came in, and we were compelled to disappoint some. This will not be the case this year with those forwarded during November, even if we have to print half a dozen extra editions to make this offer good.

NOW IS A GOOD TIME

to make up clubs of both old and new subscribers for 1858. Will our friends please take hold of the matter at once? The premium of extra numbers and seeds will assist you in inducing your neighbors to join you. Six subscribers are supplied for \$5. Ten or more subscribers for 80 cents each. We shall expend so much upon the paper itself, and in the distribution of seeds, &c., that we cannot possibly afford the enlarged paper at any lower rates without losing money, which, of course, we do not intend to do.

Our Seed Distribution.

For the information of new subscribers who have not seen our former statements, we here repeat that we are collecting from our own grounds, as well as from sundry other sources, a considerable variety of pure Field, Garden and Flower Seeds for free distribution among our subscribers. This collection will continue up to the close of the year. The seeds will be put up in packages suitable for mailing; and in the January number a list of those on hand will be published, from which every regular subscriber can select any three varieties desired. Arrangements will be made for sending large parcels by express.

These seeds are offered in part as premiums, and in part with the desire of disseminating to all parts of the

country, small parcels of both old and new varieties of plants which may by this means become more widely propagated.

We find ourselves again compelled, by sundry orders addressed to us, to state that we have no connection with, or interest in, any seed establishment, and we do not deal in seeds of any kind, nor in anything but newspapers, and of those only one kind—viz., *Agriculturists*. We cannot hereafter always reply individually to business orders outside of those connected with our own office. The distribution of useful seeds is only legitimate with us because connected with, and incidental to the dissemination of useful information.

Thirty-two Quarto Pages!!!

We have at last got this journal up to the size we have long desired. This we could not feel warranted in doing before, as we have been unwilling to do any other than a safe business, (our bump of caution is said to be large). We think now, that taking into account the size of this journal, the amount of type, the superior quality of paper upon which it is printed, and the amount of thought and care devoted to its pages by a large number of practical men, the *Agriculturist* is not excelled if equaled by any similar journal in the world. But we have only fully arrived at an ideal in one thing, viz. in size—the improvement in the intrinsic value, in the kind and character of its reading matter, in instructive illustrations, &c., &c. is but just commenced. Our motto for next year is *EXCELSIOR*,—onward—upward—and if we live, the same will be the case the next, and the next year.

We have no idea of being obliged to beg of our old subscribers, or to offer premiums to them to continue with us and invite their friends to subscribe, for we intend to make so valuable a paper that no one who tills a foot of ground can afford to do without the *Agriculturist*.

If times be hard, there will be still more need of the aid of such a paper as this, to assist, by its teachings, hints and suggestions, in the more economical and more profitable culture of the soil.

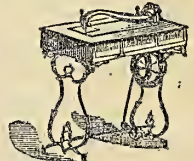
Back Numbers of the Present Volume.

We are very frequently printing extra editions of this Volume, back to January, to supply new subscribers coming in from time to time, many of whom wish to go back to the beginning of the Volume. Let it be understood, then, that those subscribing in July, or at other periods, can at any time order the back numbers of this Volume.

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C. W. GRANT, Iona, near Peekskill.

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 PEACHES, APRICOTS and NECTARINES, on plum stocks and their own roots.

DWARF PEARS of fine form, and ready for bearing.
 GOOSEBERRIES and CURRANTS, strong plants of the best sorts.

RASPBERRIES—FASTOLF, RED ANTWERP, FILLBASKET and other known sorts.
 STRAWBERRIES of all the best varieties.
 NATIVE GRAPES—ISABELLA, CATAWBA, and other hardy varieties.

FOREIGN GRAPES—All the well-known sorts, with some new varieties of great excellence. These plants are propagated from vines that have borne abundantly for some years, and are known to be correct.

Great care is taken in the cultivation of Fruit trees, and none but those of the best quality are allowed to be sent out.

THE ORNAMENTAL DEPARTMENT

Contains Trees of all sizes for lawns and streets, including Elm, Silver, Norway and Sycamore Maples, Catalpas, Lindens, Tulip Trees, Cypress, Larch, Willows, Ash, Abies, Orientalis Plane, and all the best varieties of deciduous trees.

It also includes Evergreens of fine size for single planting, and of small sizes at low prices, from one foot upwards, for Europe; among them are Norway Spruce, Balsam Fir, Austrian Pine, Hemlock, White Pine, Scotch Fir, and other varieties.

The best shrubs include many fine varieties at low prices, for massing, of which the *Rhododendron Catawbiense* can be particularly recommended for its fine evergreen foliage, showy bloom, and perfect hardiness.

The ROSES are cultivated in very large quantity, on their own roots, of all the most rare varieties, and to those who purchase in quantity, will be sold at greatly reduced rates.

THE EXOTIC DEPARTMENT

Contains a fine assortment of *Camellias*, grown as bushy, rather than tall, slender plants; and also contains all the well-known varieties of exotic plants, and many rare sorts introduced from Europe usually. These are most carefully grown for those who desire plants of symmetry and beauty.

CATALOGUES of all the departments will be furnished on application. Great care will be taken in packing, and trees will be delivered in New-York, and thence shipped as directed.

OAKLAND NURSERY,

Throg's Neck,

WESTCHESTER CO., NEW-YORK.

The Subscriber offers for sale a fine collection of Fruit, Ornamental Trees and Shrubbery of the most vigorous growth. His stock of Evergreens is extensive, extra large sized trees of Norway Fir, White Pine and Scotch Fir can be furnished from 6 to 10 feet in height, in large or small quantities. These Trees are well adapted for giving immediate effect in new lawn plantations—of smaller size, including the same varieties, are Silver Fir, Balsam Fir, Black Spruce Fir, Cembra Pine, Austrian Pine, American Arbor Vitae, Chinese Elm, Siberian do., English and Irish Yews, and some of the best new Evergreens.

PEAR TREES.

His collection of Pears includes the best leading proved sorts, and of the newer varieties are Sheldon, Howell, Boston, Beurre Clairgeau, Gen. Lamouricere, Fordane and Doyenne du Comice, Beurre Bachelier, Omar Pacha, Doyenne and Beurre Sterckman, Church, Parsonage, &c. Also, a good stock of Dwarf Pears, Cherries, Apples and small fruits.

DECIDUOUS TREES.

A general collection of Deciduous Trees from extra large to small size, among these are Norway, Silver and Sycamore Maples, Elms, Ash, Oaks, Beech, Purple and Weeping do., Larch, Laburnum, Paulownia, &c., &c.

A good collection of Shrubbery, Roses, Green House Plants and Bedding Plants, Hollyhocks, Japan Lilies, &c. &c.
W. M. L. PERLES, Oakland Nursery, Throg's Neck, Westchester Co., N. Y.

Catalogues furnished on application.
 Packages of Trees delivered in New-York City without charge for freight, and thence shipped as directed.

Highland Nurseries, Syracuse, N. Y.

These Nurseries, situated on the hills at the southwest part of the city, produce trees and shrubs of a very vigorous growth, the wood being thoroughly ripened—and will better endure transplanting or a change of climate, than those of a forced growth, on warmer, richer soils.

Our Stock is large and comprises a full assortment of FRUIT AND ORNAMENTAL TREES, VINES AND SHRUBBERY.

Desirous of making new arrangements of some portions of our grounds, and for the purpose of clearing them this Fall, we offer our stock at from 25 to 40 per cent. less than customary prices.

Nurseriesmen, or other desiring to plant largely, will find it much to their advantage to give us a call.
 Apply by mail for a catalogue, and state particularly what kinds of trees and how many are wanted.
 Sept., 1857. **COWLES & WARREN.**

New-Canada Nurseries.

The subscribers would invite attention to their Nursery stock, consisting of

100,000 Apple trees from 2 to 5 years from the bud or graft;
 40,000 Peach trees, 1 year from the bud;
 20,000 " " 2 years

Pear trees, Standard and Dwarf, Cherry, Apricot and Quince trees. Also 20,000 American Arbor Vitae from three to five feet high, (twice transplanted), Norway Spruce and other Ornamental trees. Address **STEPHEN HOYT & CO., New-Canada, Aug. 15, 1857. New-Canada, Ct.**

NOTICE TO ORCHARDISTS.

25,000 PEACH TREES, ONE YEAR FROM THE BUD, OF STRONG GROWTH.

Being always engaged in the culture of the fruit for market, purchasers may rely upon obtaining the varieties best adapted to their interest

20,000 Osage Orange plants, 2 years growth, twice cut back and root pruned.
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 Rumson Nurseries, near Red Bank,
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BAGS, TWINES, &c., suitable for Nursery purposes, for sale in lots to suit, by

D. W. MANWARING, Importer,
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SURE PAY and NO RISK.—PLEASANT

and PROFITABLE EMPLOYMENT may be had by addressing **FWLER and WELLS, No. 308 Broadway, New-York.**

LAWTON (OR NEW-ROCHELLE) BLACKBERRY PLANTS.

PRICES REDUCED!

The Subscribers announce to their friends and customers that they have now

OVER SIX ACRES of the

GENUINE LAWTON (OR NEW-ROCHELLE) BLACKBERRY PLANTS

under cultivation, and in good condition.

They are therefore prepared to fill large orders the coming FALL, and the next SPRING, at the following reduced prices:

- One Thousand Plants.....\$125
- One Hundred Plants..... 15
- Fifty Plants..... 8
- Two Dozen Plants..... 4 50
- One Dozen Plants..... 2 50
- One Half Dozen Plants..... 1 50

Good Plants for setting, of a second size, will be sold for \$100 per 1,000 Plants, or \$12 per 100 Plants.

N. B.—All Plants ordered of us will be TAKEN UP and PACKED with the GREATEST CARE, and UNDER OUR OWN PERSONAL SUPERVISION.

Of the MANY THOUSANDS sent out by us last year, we have heard very few instances of failure, notwithstanding that they have been forwarded to

EVERY PART OF THE COUNTRY.

and the setting out has often been entrusted to unskillful hands.

Printed directions for setting and cultivating are sent with every package.

GEORGE SEYMOUR & CO.,
South Norwalk, Conn.

N. B.—DREW & FRENCH, 85 Barclay-street, New-York City, are our authorized agents for the sale of these plants, from whom they can be obtained of same quality and at same price as of ourselves.

GEO. SEYMOUR & CO.

Lawton Blackberry Plants.

In all cases warranted of the original stock, and raised under the supervision of the Subscriber upon his own grounds in New Rochelle.

SCALE OF PRICES BY THE DOZEN.

- A package of one dozen.....\$3
- Do. two dozen..... 5
- Do. five dozen..... 10
- Do. eight dozen..... 15
- Do. twelve dozen..... 20

The name and direction of purchasers should be distinctly written, and the money accompany the order.

Address **WILLIAM LAWTON,**

54 Wall street, New-York, or New Rochelle, N. Y.

OCTOBER, 1857.

LAWTON (OR NEW-ROCHELLE) BLACKBERRY.

We are prepared to fill orders PROMPTLY for GENUINE PLANTS of this remarkable fruit, carefully packed for shipment to any part of the world, from Messrs. George Seymour & Co., the Messrs. Hallock and others of the largest and most reliable growers, at the following reduced prices, viz.:

- \$125 per Thousand; \$15 per Hundred;
- \$8 per Fifty; \$4 50 per Two Dozen;
- \$2 50 per One Dozen; \$1 50 per Half Dozen.

Pamphlets treating of Origin, Characteristics and Culture of the Plant, forwarded on receipt of 6 cents.

DREW & FRENCH,

Commission Dealers in Domestic Fruit and Produce,
No. 35 Barclay-street, New-York.

NEWMAN'S THORNLESS BLACKBERRY.

Strong and finely rooted Plants of this valuable new variety will be sent out this season at \$4 per doz., \$10 per fifty, \$18 per hundred, \$130 per thousand. Address **A. A. BENSEL,** Milton, Ulster Co., N. Y. Sole Agent for the sale of Plants.

BAGLEY'S EVER-BEARING RASPBERRY.

The Proprietor of this new and valuable addition to our gardens, is now prepared to supply orders for large and well-grown plants. After an experience of FIVE YEARS he is able to speak positively as to its good qualities.

1. The canes are strong and bushy, do not require stakes, are ENTIRELY HARDY without Winter covering, and are biennial.
2. One principal crop is produced in July, followed by a good second crop through August, September and October. Good pickings are had at the present time, which have received premiums from various horticultural shows.
3. The fruit is red, rich, and fine flavored.

Orders from Nurserymen and others, for large quantities, will be supplied at \$1 per dozen by the proprietor.

A BAGLEY, New Haven, Conn.

Also, by Bridgeman and R. L. Allen & Co., Seedsmen, New York City.

The Allen Raspberry.

I again offer to the public this valuable, hardy, red RASPBERRY, of the Antwerp family, but not the TRUE Red Antwerp of the nurseries and market gardeners, as the Allen is perfectly hardy without Winter protection in any climate where it has been tried, up to 45 deg. North. Mr. Allen has cultivated it in his farm gardens, of which I now have the charge, for ten years past, and it was only offered for sale last year, after fully testing its hardiness, prolific bearing, and large, fine-flavored fruit. Its strong growth of cane requires no support, and it is every way a most valuable variety, not known elsewhere than in its present grounds, and places to which it has been transplanted.

Price 10 cents each, in quantities less than sixty. For five to eight dozen, \$1 per dozen. For one hundred or more, \$7 per hundred; payment required for sale last year, after fully testing its hardiness, prolific bearing, and large, fine-flavored fruit.

The plants will be forwarded by express, railroad or steamboat, as soon after the October frosts as they can be taken up and packed.

A full description of the plant and fruit, and directions for cultivation, will be sent with each package.

Address care of **LEWIS F. ALLEN, Esq.,** Black Rock, N. Y. August 15, 1857. **THOMAS DUFF.**

ISABELLA AND CATAWBA GRAPE VINES FOR SALE, for forming vineyards, of two, three, and four years old. **SIDNEY E. VAN WYCK,** Fishkill, Dutchess Co., N. Y.

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CIDER MILLS—Hickok's new and improved kind, the best in the United States.

HORSE POWERS of all kinds—Allen's Railroad, Emery's do., Taplin's rim or circular, Bogardus' iron, &c. &c.

THRESHERS of all kinds—Overshot with separators, Under-shot, Hall's, and others with fans attached.

FAN MILLS—Allen's, Grant's, and others.

CORN SHELLERS of every variety.

STRAW CUTTERS—A dozen varieties of the best.

VEGETABLE CUTTERS and **STUFFERS.**

CARTS and WAGONS made to order.

GARDEN and RAILROAD BARROWS.

Plows of every description for Northern and Southern use, and for every kind of soil and crop.

CULTIVATORS, HARROWS, &c. &c.

POTATO DIGGERS—The Landon Plow, with its attachments, is admirably adapted to this purpose.

FILKINGTON SMUT MACHINE—The best and cheapest in use.

MOTT'S VEGETABLE BOILERS.

LITTLE GIANT CORN and COB CRUSHERS.

ROAD SCRAPERS.

SUGAR MILLS for crushing the Chinese and other Sugar Cane, of various sizes and patterns.

All the foregoing, of the best kinds and most reliable materials, Wholesale and Retail, by

R. L. ALLEN,

189 Water-street, New-York.

Lindsey's Rotary Force and Lift Pump. BEST PUMP FOR RAILROADS.



THIS Pump, patented in England and America, is now greatly improved, and in successful operation in various parts of the world. It is warranted to work by hand all depths under 100 feet, and is made, pipe and all of wrought and THE cast iron, will not get out of order, will not rust, will not freeze, will last an age, anybody can put it up, works by hand, water, wind or steam—30 gal. raises water, from 10 to 30 gal. per minute, has side-gearing and 2 and 4 plane wheels, and costs, complete, for all depths under 100 feet, from \$20 to \$60. Drawings, with full particulars and prices, sent free of postage to all parts of the world, on application to

JAMES M. EDNEY, General Agent and Commission Merchant, 56 John-street, New-York.

BEST PUMP FOR WELLS.

Hildreth's Celebrated IRON GANG PLOW

has invariably taken the

FIRST PREMIUM

at every Fair wherever exhibited in several States and Counties.

It is fast superseding all other implements for cross-plowing and surface cultivation.

One of these Gangs is now on exhibition at the Crystal Palace.

Please see cut and editorial remarks in August number of this paper.

Circulars with full description, testimonials, &c., furnished on application to **HILDRETH & CHARLES,** Lockport, N. Y.

Willis' Improved Stump Machine PATENTED MARCH 6, 1855.



Farmers, Mechanics, Road-Builders, Speculators, and all progressive men, your attention is called to this valuable Patent.

My Stump Machine must go before the Mower and Reaper. It has no equal. It is simple in its construction, easily worked, and not liable to get out of repair. Its common weight is about 1,500 lbs. It is easily borne from place to place, and it can be loaded in three minutes, and unloaded, set up, and a lusty stump drawn, all within fifteen minutes. Once fastened, it will pull an acre and a half of stumps without changing anchorage. A single yoke of cattle, or one strong horse, is sufficient to work it. With such a team, if necessary, a power of from three to five hundred tons can be made to bear upon a single stump!

One man can work it, though two work it at better advantage. The time required to extract stumps from six inches to four feet in diameter will vary from two to ten minutes. With this Machine, standing trees may be taken out, and large rocks removed from their beds, and it is the best Machine ever invented, not only for pulling stumps, but for moving buildings, and other heavy bodies. All the iron used is wrought, of peculiar quality, imported, sustaining 37 tons to the inch!

The price of these Machines varies according to weight and size—the weight of the largest being about 1,500 lbs. For the purpose of transportation, it can be boxed up, with the exception of the lever and wheels, in a box ten feet long and about fifteen inches square. I reside at Orange, Massachusetts, where these Machines, properly boxed for transportation, are sold by self ready to furnish it, or sell rights to use it, in any State or town in the Union, now unsold, on terms most reasonable.

This patent begins to be appreciated. All who wish to bring so good a thing into use, and thereby make a "pile of money," should come to Orange, see the inventor, see the workings of the machine with their own eyes, and if not perfectly satisfied respecting its merits, all their expenses shall be cheerfully paid. These Machines, properly boxed for transportation, are sold by **NOURSE, MASON & CO., PARKER, WHITE & CO., and SCUDDER & CO.,** of Boston; and by **R. L. ALLEN,** No. 189 Water-street, New-York. **WILLIAM W. WILLIS.**

REFERENCES.—Hon. SIMON BROWN, Editor New-England Farmer. J. A. NASH, Editor Plough, Loom and Anvil; and Mr MOORE, Editor Rural New-Yorker.

THOROUGH BRED NORTH DEVON-SHIRE STOCK—In order to make room for my late importation of Devons, I will sell three or four Cows and Heifers, full blood, Devons, with pedigrees registered in the Herd Book at reasonable prices. Also, Bulls and Bull Calves.

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Address at 251 Pearl street, New-York City.

ICE TOOLS.—Ice Plows, Saws, Splitting Bars, Hooks, &c., for sale by **R. L. ALLEN,** 189 Water-street, New-York.

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THE ILLINOIS CENTRAL RAILROAD COMPANY

IS NOW PREPARED TO SELL ABOUT

1,500,000 ACRES OF CHOICE

FARMING LANDS,

IN TRACTS OF FORTY ACRES AND UPWARDS

ON LONG CREDITS, AND AT LOW RATES OF INTEREST.

THESE LANDS WERE GRANTED BY the Government to aid the construction of this Road, and are among the richest and most fertile in the world. They extend from Northeast and Northwest, through the middle of the State, to the extreme South, and include every variety of climate and productions found between those parallels of latitude. The Northern portion is chiefly prairie, interspersed with fine groves, and in the Middle and Southern sections timber predominates, alternating with beautiful prairies and openings.

The climate is more healthy, mild and equable, than any other part of the country; the air is pure and braeing, while living streams and springs of excellent water abound.

Bituminous Coal is extensively mined, and supplies a cheap and desirable fuel, being furnished at many points at \$2 to \$4 per ton, and wood can be had at the same rate per cord.

Building Stone of excellent quality also abounds, which can be procured for little more than the expense of transportation.

The great fertility of these lands, which are a black rich mold from two to five feet deep, and gently rolling—their contiguity to this road, by which every facility is furnished for travel and transportation to the principal markets North, South, East, West, and the economy with which they can be cultivated, render them the most valuable investment that can be found, and present the most favorable opportunity for persons of industrious habits and small means to acquire a comfortable independence in a few years.

Chicago is now the greatest grain market in the world, and the facility and economy with which the products of these lands can be transported to that market, make them much more profitable at the prices asked than those more remote at Government rates, as the additional cost of transportation is a perpetual tax on the latter, which must be borne by the producer in the reduced price he receives for his grain, &c.

The Title is Perfect, and when the final payments are made, Deeds are executed by the Trustees appointed by the State, and in whom the title is vested to the purchasers, which convey to them absolute titles in Fee Simple, free and clear of every incumbrance, lien or mortgage.

The prices are from \$6 to \$30.

INTEREST ONLY 3 PER CENT.

20 per cent. deducted from the Credit price for Cash.

Those who purchase on long credit give notes payable in 2, 3, 4, 5 and 6 years after date, and are required to improve one-tenth annually for five years, so as to have one-half the land under cultivation at the end of that time.

Competent Surveyors will accompany those who wish to examine these lands, free of charge, and aid them in making selections.

The lands remaining unsold are as rich and valuable as those which have been disposed of.

SECTIONAL MAPS

Will be sent to any one who will inclose fifty cents in Postage Stamps, and Books or Pamphlets, containing numerous instances of successful farming, signed by respectable and well-known farmers living in the neighborhood of the Railroad lands throughout the State; also the cost of fencing, price of cattle expense of harvesting, threshing, etc. or any other information, will be cheerfully given on application, either personally or by letter, in English, French or German, addressed to

JOHN WILSON,

Land Commissioner of the Illinois Central Railroad Co. Office in Illinois Central Railroad Depot, Chicago, Illinois.



LYON'S KATHAIRON.

The immense sale of this unequalled preparation for the Hair—nearly 1,000,000 BOTTLES PER YEAR, and its universal popularity proclaim it emphatically "THE PUBLIC FAVORITE."

The Kathairon is pronounced by all to be the most excellent preparation for the Hair ever made. This unprecedented popularity has induced unprincipled persons to endeavor to sell worthless imitations and counterfeits in place of the genuine LYON'S KATHAIRON—the public are cautioned against such imposition. Sold by all respectable dealers everywhere for 25 cents per bottle.

HEATH, WYNKOOP & CO.,

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THERMOMETERS, BAROMETERS, &c.

of reliable quality and various descriptions, among which are those particularly suited for Horticultural purposes, which register the coldest and warmest degree of temperature during the 24 hours, in the absence of the observer. For sale by

D. EGGERT & SON, 239 Pearl-st.

MARKET REVIEW, WEATHER NOTES, &c.

AMERICAN AGRICULTURIST OFFICE, NEW-YORK, Oct. 22, 1857.

The Breadstuff Markets have been seriously disturbed by the recent money panic, and sales of Western crops came to a dead halt for want of cash or credit to move them Eastward. The Banks which had hitherto played an important part in this trade, by loaning funds for sixty or ninety days, were compelled by failures at home to withdraw the usual facilities to grain dealers. We are glad to announce that an arrangement has just been entered into by the Banks of this City, which will tend to set the crops in motion, and bring forward large quantities this season, if the canals do not close under four or five weeks. Farmers in debt should sell at once and pay up their "store debts," thus enabling country merchants to pay the jobbers, and through them the importers and manufacturers. If this be done speedily, hundreds if not thousands of failures will be averted, the Banks will be able to resume specie payments, and the country be saved from an otherwise far worse financial condition than now prevails. Yesterday witnessed a decidedly better feeling at our Corn Exchange, with a little advance in the price of flour and grain. Prices, however, will go little above present figures, unless the Canals be speedily closed by cold weather, in which case Breadstuffs will be higher here and lower in the country.

Cotton has fallen greatly in price; there is now nothing doing, and no quotations can be given. It is scarcely possible to name the selling rates for Hay, Hops, Molasses, Potatoes, Provisions, Rice, Sugar, or Tobacco, since the entire market was thrown into confusion by the money crisis, and several days must elapse before regular prices can be established. We present, however, the following carefully prepared quotations of prices as they are to-day, with those given at our last report, for comparison:

Table with columns for Sept. 23 and Oct. 22, listing various commodities like Flour, Wheat, Corn, etc. with their respective prices.

A statement of the total receipts of the leading kinds of Breadstuffs, by railroad, river and coastwise, and of the total sales, here, for four weeks, ending to-day.

Summary table showing Receipts and Sales for Wheat, Corn, Rye, Barley, and Oats.

LIVE STOCK MARKETS.—The Cattle Markets have been much depressed, chiefly by the disturbance in finances. A lack of cash funds, current at the West, has kept buyers

out of the market. The sales on the 14th, a week ago yesterday, were the duldest and lowest we have seen at the cattle yards in many years. Yesterday matters brightened up a little, the yards were cleared out, and there is a better prospect ahead. The cattle are all wanted at the West to consume the corn crop, not very saleable now. The very low price of hides (4c.) and tallow (5c.) is one cause of the decline in price of cattle. The receipts of Beef Cattle in this city for five weeks preceding yesterday, were 17,631 against 15,732 for the preceding five weeks. The market varied thus: Sept. 23, trifling decline; Sept. 30, 3c. P lb. decline; Oct. 7, small decline; Oct. 14, 1c. decline; Oct. 21, 3c. advance—total variation for month, 1c. decline. Prices ranged yesterday (Oct. 21)—First quality, 10c. @ 11c. P lb. for estimated dressed weight; medium quality, 9c. @ 9 1/2c.; poor, 7c. @ 8c.; poorest, 6c. @ 7c.; general selling prices, 6c. @ 9c.; average of all sales, 8 1/2c. to 9c.

Live Sheep and Lambs received here in five weeks, 29,752. Prices have ruled low, but have strengthened this week. Sheep and Lambs now range from 8c. to 10c. P lb. for the estimated dressed meat, which is a trifle more than half the live weight of fair Sheep. Pelts (wool Sheep skins) only bring 4c. @ 5c. each. The Hog market is dull, with arrivals exceeding the demand. They too should be kept at the West consuming corn. Live Hogs are now worth, for corn-fatted, 5c. @ 6c. P lb. live weight; for distillery fed, 5c. @ 5 1/2c.

THE WEATHER during the last week in September, and thus far in October, has been generally very favorable for maturing the corn crop and keeping up a good supply of pasturage. (See closing remarks on page 248.) Corn has ripened well in most parts of the country, though touched by frost at the North on the last day of September. In this vicinity, corn, and especially the sugar cane, is still green and growing. Late flowers are in full bloom, and the gardens are almost as green as in August.

Our Weather Notes, condensed, read: Sept. 24, 25, clear, cool; 26, 27, 28, clear, mild, even warm; 29, 30, cooler, with frost on morning of Sept. 30. Oct. 1, clear, cool, mercury 25° at sun-rise, with a little white frost; 2, 3, mild and pleasant; 4, clear, warm, cool night; 5, 6, 7, 8, 9, 10, 11, 12, clear, mild, and very pleasant; 13, cool, heavy fogs, but clear afternoon; 14, showery; 15, warm, rain; 16, clear, rainy P. M.; 17, 18, clear, cool; 19, cloudy; 20, 21, cool, first chilly winds, an Autumn day; 22, signs of Winter's approach, but still pleasant.

A Word About Money.

Though "Specie Payments" are nominally suspended throughout the country, we beg leave to inform our readers that we receive, at par, all notes of the unbroken banks of New-England; also of all New-York State banks secured by pledge of public Stocks (all are so secured except a very few of the old Safety Fund banks); also of unbroken banks of New-Jersey and Pennsylvania. When necessary, we will also receive for subscriptions the notes of any well-secured Western and Southern banks, which are in good credit at home, and which can be sold here at any moderate discount.

However, since we furnish our paper at the lowest possible living rate, with little dependence upon a large profit from advertising, and as we desire to devote as large a sum as possible to further improvements in the paper itself, and in the distribution of seeds, we ask, as a particular favor, that whenever possible our friends will make their remittances in Eastern, New-York, or New-Jersey bills, or in three-cent postage stamps, or gold. Where sums of over five dollars are sent at one time, and drafts on New-York City can be procured, it is safer and more desirable that these should be sent. One-half of the exchange on such drafts may at all times be charged to us, and deducted from the amount forwarded.

Bills of the following New-England banks are at present discredited in this city.

MAINE.—Canton; Exchange, of Bangor; Maritime; Monsum; Rockland; Ellsworth; Hancock; Hallowell; Sandford.

NEW-HAMPSHIRE.—Exeter.

MASSACHUSETTS.—Bass River; Lee; Western.

VERMONT.—St. Albans; So. Royalton; Stark; Danby.

CONNECTICUT.—Bridgeport City; Exchange, Hartford; Charter Oak; Hartford Co.; Mercantile, Hartford; Wooster; Hatters; Paliquoque; Colchester; Merchants' Exchange, Bridgeport; North America; Pawtucket; Thompson, Windham Co.; Woodbury. Nearly all the Connecticut Banks here named will doubtless soon be good.

RHODE ISLAND.—Republic; Farmers' Bank, Wickford; R. I. Central; Tiverton; Warwick.

Copies Lost by Mail

Are always supplied without charge.

Contents for November 1857.

Table listing contents for November 1857, including Agricultural Journals, Shows, Exhibitions, and various articles with their page numbers.

Table listing various articles and illustrations from the magazine, such as Bones in the manure Heap, Boys and Girl's Page, Cabbages—Keeping in Winter, etc., with their respective page numbers.

American Agriculturist.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; IN-DOOR and OUT DOOR work around the DWELLING; care of DOMESTIC ANIMALS &c. &c.

The matter of each number will be prepared with reference to the month in which it is dated, and will be promptly and regularly mailed at least one day before the beginning of the month.

A full CALENDAR OF OPERATIONS for the season is given every month.

Over FIVE HUNDRED PLAIN, PRACTICAL, instructive articles are given every year.

The Editors and Contributors are all PRACTICAL, WORKING MEN.

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All business and other communications should be addressed to the Editor and Proprietor,

ORANGE JUDG, No. 159 Water-st., New-York.

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Designed to improve all Classes interested in Soil Culture.

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ORANGE JUDD, A. M., }
EDITOR AND PROPRIETOR.

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NEW-YORK, DECEMBER, 1857.

[NEW SERIES—No. 131.

Business Office at No. 189 Water-st.
For Contents, Terms, &c. see page 299.
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Please refer to the Publisher's
Notices on page 298.

WORK FOR THE MONTH.

"Thus in some deep retirement would I pass
The Winter glooms, with friends of pliant soul
Or blithe, or solemn, as the theme inspired;
With them would search, if Nature's boundless frame
Was called, late rising from the void of night,
Or sprung Eternal from the Eternal Mind;"
Its life, its laws, its progress, and its end.

"Dead as December," is a proverb of rural life. The change is apparent everywhere. The sun has retired far to the South, and even at mid-day sends down his beams aslant upon the earth. "How short the days are," is the frequent exclamation from the busy housewife, and the sentiment is often echoed from her busy spouse. The weather is drear and gloomy, and the bright sunny days are few and far between. Outdoor labors are uncomfortable, and the shelter of the barn or the fire-side is frequently sought. It is a time of endurance, and almost the whole labor of the farmer is directed to make his family and the animals dependant upon him comfortable. There is little to attract him to the field or forest but the stern necessities of the season.

Yet, there can be little doubt that a much larger part of the Winter is redeemed for useful labor now than fifty years ago. Then, as the old people tell us, very little was accomplished after the Winter had fairly set in. Nearly all the help upon the farm was dismissed in November, and the farmer did little else than take care of his cattle until the Spring opened.

Now many of our farmers find it practicable to retain a large part of their Summer laborers, and to give them a chance to earn their bread in Winter. All good farmers now secure their wood, when the swamps are frozen and covered with snow. Places in the forest inaccessible at other seasons, are now visited, and the corded wood is hauled home upon the sled. Muck beds are so drained that they are accessible in Winter. It is practicable to throw out the muck in the coldest weather, and to sled it to the yards for mixing with manure, or to the fields, where it will be wanted in the Spring. It is found quite practicable, too, to ditch and drain at this season. Thick India-rubber boots make the feet proof against water,

and a laborer can now be comfortable, even in freezing weather. Trenches are also dug and filled with cobbles as a foundation for stone fences. Manures in the yard are forked over and mixed with muck. There are many more things to be done upon the farm now than formerly, and the farmer has a more buoyant heart to do it.

The character of our climate, and of our population, we think, have undergone a change for the better. The cleaning up of our forests, and especially the drainage of swamps and low lands, have tended to soften the asperity of our Winters. The temperance reformation has had a happy influence upon the morals of the people, and energies once wasted in the tap-room, are now spent in useful labor. The industry of the farmer meets with a better reward, and he is stimulated by the higher price offered for all his products to unwearied diligence in his calling. The standard of education is greatly improved among the people, and the farmers now upon the stage bring a much larger share of intelligence to their work than the generations that preceded them. Then, in the matter of special training and education for their work, the farmers of to-day are in advance of those of fifty years ago. There has been a steady and healthful increase in our agricultural literature for the last twenty years, and the State and County Societies, which now hold their Annual Fairs, are the creations of the agricultural Press. These Fairs, when rightly conducted, are one of the best means of education in the farmers' art that we enjoy. We are approaching slowly, but surely, to a systematic husbandry. Order will be introduced into all the departments of farming, and men will have accurate knowledge of the wants of every crop, and will not hesitate to spend the necessary money and labor to secure the best results. Some points are already settled, and many more are rapidly approaching a solution. Our best informed farmers do not hibernate like many of the wild animals. They assume that man is the lord of Nature, and can so plan his business as to labor to advantage all through the year. Of course

MENTAL CULTURE

will have its place in his plans, and Winter is the best time to lay in stores of knowledge for future use. Few farmers find time in the Summer for that reading and reflection which are essential to the best methods of husbandry. Not only does a man want to master the general principles of agricul-

ture, and its kindred sciences, but he wishes to apply these principles to his own homestead. There is probably a considerable variety of soil in the hundred or more acres he owns, and he wants time to mature plans for the economical improvement of the whole. Even after one has studied the subject of drainage, he cannot tell at a glance how much of his farm will pay for drainage. The swamps and swales, of course, most need this improvement. It will take time and study to tell how much further up the slopes and hill-sides he may extend his drains with profit. Some of his soils need lime probably, and it is a question where it can be best applied, and how large an investment he can afford to make in this article.

With the markets he has to supply, some crops will pay a great deal better than others. In some localities he may devote his whole farm to one or two leading staples; in others, a varied system of cropping is the more profitable course. The questions that arise in the management of a farm are very numerous, and now is the time for a cultivator to give his attention to them, and determine upon the course that is best for him to pursue. The mind is cultivated and strengthened not only by reading, but by the discussion of these practical questions in husbandry. There is no mental growth without reflection.

THE WINTER SCHOOL

is, of course, the appropriate place for the children who are to be the next generation of farmers. Who does not remember with rapture his schoolboy days, his first introduction to that august personage, the teacher, and his early experiences under his rule?

"What pleasing sights does yonder group create,
Their childish sports, their contest and debate.
Man loves to see, as ripened wisdom grows,
Its fruits enrich the soil from whence it rose,
But who can view nor secret pleasure know
Life yet in bud, and manhood on the blow?
'Tis then that man's himself; no artful guise
Spreads o'er its young desire its treacherous dyes.

It is the forming period of life with them, and very much of their future success will depend upon their advantages in the Winter school. In many parts of the country the sessions of the school are confined to this season. Farmers are often tempted to keep their larger boys at home, to assist in the procuring of fuel, or in the care of stock. For a little present gain, the future good of the lad is sacrificed. This course is unworthy of any good father. The boys of the farm ought to have the full benefit of the district school, and extra advantages as they

grow older. A good education of the mind and heart is the richest inheritance a father can bequeath to his son.

THE POULTRY QUARTERS

should now be looked after. You perceive the reddening combs of your pullets, which indicate eggs early if they are kept comfortable. If left to shift for themselves under the old shed, or upon the apple tree, your hope of eggs will be nipped in the bud, if you have been so rash as to cherish it. Many farmers are resigned to a long eggless Winter because they will not take trouble to provide for the biddies. Fowls want a warm southern aspect, sheltered from the wind and snows, and must have it if you want eggs. A poultry-house ought to be a part of every farmer's establishment; but if you cannot have a separate building, finish off a part of the barn cellar, and put in a window at the south side, where the sun can look in upon them for a few hours in the day. Furnish this room with pure water, gravel, old mortar, oyster or clam shells, or bones, all broken up finely. Put a bed of loam or muck under the roosts, and see that it is mixed with the droppings once a week. Fowls suffer more from the neglect of their fæces, than from any other cause. It is entirely practicable to have fresh eggs all through the Winter, if you will give your pullets warmth, cleanliness, and the materials to work with. Meat is essential.

FATTENING PORK.

Many keep up their swine until New-Year's, thinking they can get a better price for their pork. It costs a great deal more to make pork at this season than in warm weather, and we doubt very much if it can be made to pay. But if done at all, it should be done in the best manner. The sty, for Winter feeding, should be a covered building, to keep the animals both dry and warm. The nests should have an abundance of clean straw, and the food should be cooked and fed to them when warm. Wood is much cheaper than corn meal, and the animal heat kept up by a tight sty and warm food, is so much saved in the meal bin.

EXAMINE THE ROOTS.

The carrots, beets, turnips, &c., stored last month, should be looked after now. Sometimes they heat, if in too large piles, and decay commences. They should be kept at a low temperature, and at the same time be guarded against frost. Potatoes at all affected with the rot should be assorted, and all defective ones removed. A little attention at this season will often save a large store of roots from decay.

PRUNING

may be attended to in the mild days of December. Grape vines, especially, should not be overlooked. We have found it much better to put the vines in order in the Fall than in the Spring. The wood has time to sear in the Winter winds, and the sap vessels are entirely closed.

WASHING AND SCRAPING

naturally follows the pruning. Many farmers are so busy that the orchard and fruit-yard are neglected in the Summer. Remove

all dead bark and mosses with a scraper, and apply a coat of soft soap and water. This will kill scale bugs and other insects, and promote the health and beauty of the tree. A smooth skin is as comely in a fruit tree as in a cow.

THE APPLE BORER

will give signs of his work about the collar of the tree. Remove the earth two or three inches with a hoe, and look for the holes. Insert in a wire and spit the occupant, or he will spit your apples next year. Apple and quince trees should be examined once a year for this destructive insect.

REMEMBER THE POOR

in these hard times. Farmers are now a favored class, and have more occasion to celebrate the close of the year with thanksgiving than any other. In the cities, financial calamities affect nearly all classes, and multitudes are thrown out of employment, and are driven to beggary. Many will seek the country in search of labor and food. It will be a great kindness to furnish them with occupation, food and shelter. In very many cases this can be done without great inconvenience. There are spells in the Winter when labor can be profitably employed, especially if offered at low rates. Cutting and hauling wood, digging and hauling muck, draining, making compost, digging out barn-cellars, repairing stone fences, are some of the things that can be done in the mild Winter days. Give willing hands a chance to work and earn at least their bread.

HOW TO KEEP SWEET POTATOES FOR SEED.

This favorite vegetable decays so quickly in our climate, in the open air, at this season, that many suppose it impossible to preserve it through the Winter. It is, however, quite common for those who cultivate them at the North, to preserve their own seed. The essential things to be secured are dryness, and a warm, even temperature. Some pack them in a box, or keg, in dry sand, i. e. sand dried artificially in an oven, or over the stove. They are then kept near the kitchen fire, where they will not freeze in the coldest weather.

We have packed them in dry wheat chaff and plaster, and kept them in a room over the kitchen. We have also packed them in dry coal ashes, and kept them in the cellar, in a room warmed by a common house furnace. Both methods succeeded pretty well. Some of the tubers rotted, but we had a great abundance for seed. To persons living near the city, it is quite as well to procure fresh seed from the market in the month of April. It is, however, often very desirable to keep a supply as above advised for Winter use.

What the Country is Saving.

One favorable omen in the present stringency of the times is the reduction of extravagant and useless expenditure. Merchants and traders generally complain of a falling off in business. People are economizing. The costly furniture, the new dresses, the delicacies in food and drink, projected for the present year are being greatly curtailed. Let us estimate the result. There are now, say 21½ millions of white inhabitants in the United States. Suppose that on the average the expenses of each of these persons be reduced one dime a day by diminishing expenses not absolutely necessary. The saving would amount to over fifteen million dollars in one week, or nearly eight-hundred millions in a single year—enough to

build nearly all the railways on the continent—enough to build four-hundred-thousand school houses costing \$2,000 each—enough to put three Bibles in the hands of every man, woman, and child, on the face of the globe!

CALENDAR OF OPERATIONS.

DECEMBER, 1857.

[We note down a summary of various operations, many of them very common ones, it is true, but a simple catalogue like this will often suggest a piece of work that would otherwise be forgotten. The Calendar is adapted to the latitudes of 39° to 45°. A little allowance must be made for each degree of latitude—earlier north—later south. This table will be made out anew every month, and adapted to the season of each year.

EXPLANATIONS.—The letters f. m. l., refer to first, middle, and last of the month.

Doubling the letters thus: ff., mm., or ll., gives emphasis to the particular period indicated.]

FARM.

During this first month of Winter, the farmer is certainly entitled to relax a little from those labors which have urged him on through the season of seed time, tillage and harvest, and having gathered in his stores, to enjoy a portion of that rest which the season seems fitted to give. During this leisure let him lay plans for the coming year, fix upon what crops to plant, what fields to drain and what lot of woodland to clear up, or wild land to reclaim. Let him get down the back numbers and volumes of the *Agriculturist*, and re-read those articles which a more busy season prevented his bestowing the necessary thought upon. But indoor reflections and plans are not the only objects of the farmer's thoughts and cares. From the pastures and fields the cattle, sheep and horses have been gathered to the barns and are now looking to his hand for their daily supplies. There are also the surplus products of the farm, a portion of which may very properly be marketed now. This is also a favorable time for cutting, drawing, preparing and storing the yearly supply of fuel. Towards the end of the month which closes the present year, every one should settle as many "running accounts" as possible and wisely resolve upon the cash- or pay-as-you-go system, rather than run up a grocery or other bill for nearly a year, trusting to pay off with the Fall crops. If you have not heretofore been in the habit of keeping an account with the farm, we advise to commence January 1st 1858, by taking a careful inventory of the farm, implements, stock and produce on hand and register the amount in a book for the purpose. A similar account taken one year from that time will give an idea of your success in farming. A more correct account would be shown by a Dr. and Cr., side for the farm, charging it with everything paid out on its account or labor expended upon it, and giving it credit for all productions sold from it. Any permanent improvements, such as erecting buildings, draining lands, planting an orchard, &c., are presumed to enhance the value of the farm to the extent of their cost. Accounts of these kinds will be useful statistics, showing one's position at the end of each year, and suggesting those operations or crops most profitable for the cultivator. But to turn to present cares we will commence by inspecting those

Buildings which should have been put in Winter condition last month. Nail the loose boards, batten the crickets, arrange the stalls and mangers for stock. If there is not sufficient shelter for all the stock, build a hovel ff. after the pattern described on page 218 of the October number.

Cattle will require especial attention during this month. Flesh lost now will be difficult to gain before Spring. Warmth, food and water are the principal things to be observed with stock. Feed regularly, using the roots and corn, or corn-cob meal mixed with cut feed. With a barn full of stock, a root and straw cutter should be indispensable implements. Have the oxen shod so as to be servicable at all times, no matter how icy the ground is. They are frequently more handy in the woods than horses.

Cellars—Examine now, and give an extra banking of earth, tan or saw dust to exclude frosts.

Christmas—May it be a merry one to all, and a feast of fat things, in which the poor are not forgotten.

Cisterns for the barn may still be built ff. if no well or spring is near. The time and manure saved by having water in the yard at all times will soon pay for a cistern, and the falling rain from a good sized barn will furnish enough for a well stocked farm.

Corn in some localities is not all husked. Have a quantity hauled to the barn or shed previous to a storm for a rainy day's job.

Draus may be made in any open weather during the Winter, if the ground is not too wet. Read over the series of articles on draining as they appear from month to month.

Fencing—Get materials from the woods and swamps and split a full supply of rails, and prepare posts against the busy season of next Spring.

Grain—Thresh fl. in any remaining in stacks, saving the straw for feeding and bedding.

Hemp—Put out fl. any not yet spread for rotting. Take up the already rotted and shock it for the hemp breaker.

Hedges—Plant fl. at the South, and where the ground will admit of working.

Hogs—Complete fattening fl. those intended for killing. Keep their pens and yards well supplied with muck and other manurial agents and absorbents. Have an eye to the increase of stock and turn the male among your breeding sows fl. if early pigs are wanted. This is the principal butchering month among farmers.

Horses and Mules—With grain feed, give a portion of carrots, and see that their stalls are warm and well bedded at night.

Ice Houses—Fill with the first firm, thick ice which is usually the best of the season. Houses may still be built fl. after the plan described and illustrated in the last *Agriculturist*.

Leaves—Collect from orchards, road sides and forests as many as possible. Dry and store under cover a good supply, or all you can get, for Winter bedding and for hot beds in the Spring. A foot of them spread over the cow and hog yards will make an excellent addition to the manure heap.

Manures—Push the manufacture of these at this season. Use muck, loam, leaves and straw to absorb all the liquids of the yards and stables. Cart a large heap of muck from the swamp to the stables for Winter use. A free bedding of it under horses to absorb the urine, will make twice as much manure as would be saved where all the liquids were allowed to run to waste, with no absorbent.

Plowing during open weather may still be continued on clayey soils when sufficiently dry.

Poultry—Give warm quarters, plenty of food and drink, with gravel, lime and meat, and you may expect eggs in the Winter season. Clean roosts often, barreling the contents for guano.

Sheep—Provide racks for, and feed under cover during storms. Keep horned cattle and horses from them. Give turnips in part, instead of all dry feed. See that they are supplied with salt. If early lambs are wanted the buck may run with them fl.

Tools—Look over during the stormy days of this month and if any need repairing you can better afford the time now than when they are wanted for use at a busy season. Some of the new ones of domestic manufacture, such as barrows, ox yokes, bows, hoe, fork and ax handles, wood sleds, &c., may also be made. Store those not wanted in a dry situation under cover, until needed in the Spring.

Turnips—Harvest fl. any still in the ground. Look to pits and give additional covering and close the ventilators at night if there is danger of freezing.

Water Pipes—See that they are sufficiently protected from frost.

Winter Grain—Allow nothing to graze upon the fields during the present month.

Wood—Commence early to get up the Winter supply. At the North where abundance of snow falls it is better to cut and draw together as much as possible before the deep Winter snows fall. Early snows usually make the best sledding to draw it home upon. A year's supply should be brought to the house, cut and stored under cover some time during the Winter, the earlier the better.

ORCHARD AND NURSERY.

Little labor is required, in the orchard at this season, if there has been proper management heretofore. The nurseryman is now nearly through with his Fall sales which he has found unusually light, owing to the "tight times." It will hardly be economy to forego the setting of trees beyond the coming Spring. A few barrels of fine apples and Winter pears would now bring enough in this market to set out an orchard.

Borers should be looked after fl. if they were not destroyed last month. See directions on the preceding page.

Labels and Stakes—Prepare a full supply for Spring use in the nursery. See that those on standard trees are sufficiently firm to stand the Winter. They should be attached by copper wire which can be lengthened as the tree increases in size. Loosen any which are cutting into the bark.

Mice—Where snow covers the ground, it is well to trample it down after each fall, to form an icy mass which they will find it difficult to pass in attempting to gnaw trees above ground. If the ground is not frozen, bank up about each tree, removing the earth in the Spring.

Orchards of old Trees—Scrape the rough, loose bark from the trunks of old trees to dislodge any insects or their cocoons, which have harbored there.

Pruning on a moderate scale may be done now, especially at the South. We would not advise removing large limbs during cold weather.

Scions—Cut fl. m. for Spring grafting.

Seeds and Pits for Fall Planting—If any of these are

still out of ground, put them in at once according to directions previously given in this Calendar.

Shrubs—These may still be transplanted during open weather. Tender varieties will require some protection as referred to under "Flower Garden and Lawn."

Transplanting—Continue fl. during open weather. Never allow the roots to freeze during the operation.

KITCHEN AND FRUIT GARDEN.

Very little gardening can be done during this month at the North but at the South the soil may be manured, plowed and laid out, and many of the early vegetables sown on warm, dry grounds. In this latitude, however, possibly some of the November work was omitted and needs early attention now.

Asparagus beds not covered last month should receive a coating of course manure fl. Spread the old stalks, and the vines of the garden over the manure, which will protect from frost and cause an early start in the Spring. New beds may still be made where the ground is open.

Bean Poles—Gather the old and procure now or during Winter, as many new ones as will be wanted another season, storing them away under cover, if possible. The cedar swamps are now accessible and poles may be cut with the Winter's wood.

Cabbages and Cauliflowers—If any are still in the gardens, put them in Winter quarters fl. as directed in the November number. Those in frames require air at all suitable times. See under Cold Frames.

Celery—Harvest fl. what still remains in the ground. Directions for storing were given on page 262, November number.

Cold Frames—Air these at all suitable times. When the weather will not admit of removing the sash entirely, raise the upper portion or the back side a little. Pick off all decaying leaves before they taint the atmosphere. Upon the approach of severe weather, bank up with manure and cover with straw and mats to exclude the frost.

Compost and Manures—Now is the time to make and collect these. Keep every receptacle or manufactory at work by supplying the hogs, cattle, horses, sheep, poultry and privies with material to absorb the liquid and gasses. Too much muck can scarcely be used for these purposes. Decayed leaves also form an excellent ingredient in garden soils. Prepare materials for early hot beds.

Currants and Gooseberries—Prune fl. those neglected last month. If the ground will not admit of putting in cuttings now, bury them in sand in the cellar or cover with boards in the garden where snowbanks will lie upon them.

Fig Trees—Bury as raspberries.

Fruit on Shelves or in the Fruit room—Look over frequently, using that which commences to decay. A moderately cool, dry atmosphere is best to preserve fruit.

Fruit Borders—Cover with a mulch of coarse manure to protect from severe freezing and enrich the earth. An embankment about each tree will often prevent its being girdled by ice. Trees may be set fl. on warm soils, as long as they are not frozen.

Grapes—Lay tender varieties upon the ground fl. if not already done. A moderate covering of earth is best for Hamburgs and other house grapes which have been growing out doors. Make cuttings now as the vines are being pruned.

Hot Beds—Collect materials such as leaves, tan bark, &c., and have a quantity of stable manure in readiness. Prepare sash and frames that every thing may be in readiness in season. Make beds at the South, m. fl. for early gardening, guarding carefully against frost.

Parsneps—Dig as wanted, securing a few to bury in sand in the cellar before the ground freezes.

Pruning of Grapes and small fruits may appropriately be done fl. making cuttings from the trimmings.

Raspberries—Cover fl. any omitted last month. Canes may still be set out fl. unless the ground is frozen.

Rhubarb—A covering of stable manure will both enrich the bed and keep out frost so as to get an earlier start in the Spring.

Salsify—Treat as parsneps.

Seeds—Clean out any remaining in pods or capsules, and label for Spring use. Place them out of the reach of mice.

Spinach—Cover with straw or salt hay fl. that intended to stand through the Winter. Thin out previous to covering.

Strawberry Beds were probably covered as directed last month. If not, neglect them no longer.

Tools—Repair and make as you have leisure.

Turnips—Harvest and store fl. any still in the ground. Look to those covered pits and bank up as the weather demands, closing the ventilators at the top.

FLOWER GARDEN AND LAWN.

Plants in these grounds, require very little attention during this their resting season. If tender shrubs were not protected last month they should receive care fl. as recommended at page 267. Evergreens may require

looking to and their loose branches tied up to prevent snow from breaking them down.

Where the land will admit of working, grading and laying out of new grounds can be done to advantage, especially if the Spring should prove wet. Put everything in neat order that there be as many attractions as possible even in Winter.

Auriculas, Anemones, Polyanthus, Ranunculus and Primroses—Cover with coarse manure, leaves or straw, to prevent sudden and severe freezing.

Biennial and perennial roots, unless covered with snow, will keep better, and start fresher for a covering of straw or coarse manure.

Bulbs—Plant fl. any which chance to be still out of ground. Full directions have already been given. See also the illustrations and remarks on page 290. Beds of these will be improved by protecting them as above.

Chrysanthemums—Cut away old flower stalks marking the desirable varieties you wish to propagate from. The roots may now be divided and reset where the grounds are in working condition.

Dahlias—Take up fl. any roots still in the ground. Liable, and pack away in dry earth or sand, in a moderately cool cellar free from dampness. Do not permit them to freeze.

Daisies, Carnations and Pinks—Protect as Auriculas, or they are liable to Winter-kill. Evergreen brush spread over them forms a good covering. A few may be taken to the green house for early blooming.

Dielytra Spectabilis—Divide roots fl. and reset where an increase of stock is desired.

Frames and Pits—Open to the air in all suitable weather, but guard against admitting frost.

Gladiolus—Treat as Dahlias.

Labels and Stakes—Now and next month is a good time to prepare a supply for Spring use. Those made of pine or cedar and painted white are the simplest, and answer a very good purpose.

Peonies—Divide and plant out fl. old or new varieties. Fall planting will insure a better bloom next Spring than if planted at that time.

Roses may be set out fl.—Separate layers made in the Spring and part the roots to increase the number of choice kinds. Tender varieties may be laid down and covered with earth for Winter protection.

Shrubs—Plant the early blooming hardy varieties this Fall, if the season will permit. Protect tender varieties as directed on page 287.

Stakes, Dahlia Poles, &c.—Collect and house for another season.

Trees may still be planted in many localities

GREEN AND HOT HOUSES.

The directions of last month apply to this. It is essential that a proper temperature be maintained, ventilating at suitable times.

THE APIARY.

BY M. QUINBY.

Everything should be in readiness, to put bees into their Winter quarters at the commencement of severe weather, but be sure that they have had the benefit of all the pleasant days of Autumn likely to occur, before removal from their Summer stand. Where there are fifty or more, it is economy to Winter in the house. The combined warmth generated by a large number of stocks in one room, makes the temperature at all times quite mild, and experience proves that the consumption of honey is much less, than when Wintered in the cold. Unless the room is very small and warm, independent of the bees, less than fifty stocks might be too cold. In all cases, let the room be perfectly dark—the holes in the top of the hive opened—and if not nervous at seeing things stand on their heads, it would be best to turn the hive bottom up on some little blocks an inch square—this will let the air circulate through the hive, and carry off the moisture which is often the cause of moldy combs.

To Winter bees in the open air, the situation should be a warm one, out of the prevailing cold wind as much as possible. Let the sun strike the hive part of the day at least. Notwithstanding the apparent loss of some bees on the snow, there is much less hazard in getting a stock through the Winter, than when continually shaded. It is very important that they be properly ventilated, and protected from the mice.

For ventilation, raise the hives containing the strongest families one fourth of an inch from the floor. If there are any holes in the side, or other place, large enough to admit mice, nail over some strips of wire cloth to keep them out, but leave just room for the bees to pass. Open the holes in the top of the hive, and let the moisture pass up into the chamber or cap.

Any empty boxes that have been on the hives, and those partially full, that are intended to be used another year, should be packed away in some dry place, and at the same time freeze thoroughly, to destroy all eggs of the moth that may be about them.

FINAL NOTES ON THE CHINESE SUGAR CANE.

We trust our readers will excuse us for devoting so much of the abbreviated space of this Index number to a subject which has been one of great interest to the country during the nearly closing year, and one in which we have taken so active a part. Hereafter this plant will take its place among other cultivated crops, and require but comparatively a limited degree of attention in these pages.

RESULTS OF EXPERIMENTS.

On pages 296-7, will be found a table prepared at no little expense of time and labor, showing at a glance the result of some sixty experiments upon the Sugar Cane, made in different States and with a variety of treatment, soils, climate, &c. Following the table are interesting and valuable condensed extracts from accompanying letters. These have been taken at random from a vast accumulation of reports that have literally loaded down our tables during the last few weeks*. We have not made any selection of the letters copied from, with reference to presenting a favorable or unfavorable view of the matter, but have taken them up just as they chanced to be laid away at the time of reception. We therefore think a careful perusal of the tabulated reports, and the remarks following will furnish a fair view of the general experience of the whole country, and of the present opinion of those who have devoted some attention to experimenting with the new plant.

A careful study of these reports will, we think, lead to the following conclusions:

1. The Chinese Sugar Cane will flourish well wherever Indian corn will grow; it endures cold better than corn, but will not ripen its seed, in a cold season like the past, further north than about the latitude of 40° to 41°.
2. Under favorable circumstances, and in good seasons, it may ripen its seed as far north as 43° to 44°. See report No. 53.
3. It promises to be superior to Indian corn for soiling (feeding green) in any locality where corn is now cultivated, and entirely aside from its value as a saccharine plant, it will be an acquisition to our forage crops.
4. It will produce good syrup from the immature canes, and this may be done in ordinary seasons as far north as 45°, and even in colder latitudes.
5. The best syrup is made from the ripe or nearly ripened canes.
6. Unlike the Southern Sugar Cane, its saccharine properties are not materially injured at once by a moderate frost.
7. The trials so far, do not show that sugar can be readily made, but limited experiments seem to indicate that this will yet be the case.
8. If it should finally be found impossible to make crystalized sugar, still an excellent syrup can be profitably extracted from its juices.
9. The most profitable results will be obtained where the culture and manufacture is carried on upon an extensive scale.
10. The manufacture of syrup is as easy and simple as ordinary maple sugar making.
11. Unless "sweetening" of all kinds shall be produced much more abundantly at the South, and sold at the North much cheaper than the average

*Our correspondents who have contributed so largely of their experience will please accept our hearty thanks for their favors. We could not, however, possibly find room for even a passing notice of each letter received. The matter contained on pages 296 and 297 has alone required the examination and condensation of over a hundred pages of letter manuscript.

prices of the past year or two, the culture of the Chinese Sugar Cane will prove highly remunerative in the Middle and Northern States.

12. In all localities remote from easy access to market, the Chinese Sugar Cane will furnish sweetening for ordinary purposes cheaper than it can be obtained from abroad. This is perhaps the most important feature connected with this plant. There are thousands of inland towns, especially at the West, and on the Pacific Coast, where, owing to expensive wagon transportation, sugar and molasses cost double or treble the sea-board prices. At all these points, the inhabitants can grow their sugar cane and make their own syrup, if not sugar, cheaper than they can import it from abroad.

13. While seed may not be ripened in the northern tier of States and the Canadas, except in very favorable years, this point is of no practical importance, since the small amount required—not more than a quart or two to the acre—will render it an easy matter to get an annual supply from the Southern and South Middle States, where it will always mature.

14. The cultivation, both for feed and for syrup making, may be entirely similar to that of Indian Corn, though at the North earlier planting is desirable where canes are desired for syrup making. It will, however, often produce a fair crop on soil too sandy and too poor to give a paying crop of Indian corn.

Other conclusions may be suggested on studying the reports, and from further information and comparison of views among practical experimenters. For this, as for other crops, we shall endeavor to present, at the appropriate season, practical directions in regard to the best modes of culture, feeding, and syrup or sugar making.

THE NEXT SEASON.

We are constrained at this time to caution our readers against laying out plans for excessive planting next Summer. Better to wait another year even, before venturing too large a sum. The persons indicated in note 12, above, may well plan for a moderate crop next year. Others should study well the chances of profit over old staple crops. We have urged every farmer to grow corn for fodder, and think the Sugar Cane may be used for a similar purpose to still greater advantage.

A Word as to seed.—Numerous inquiries addressed to us already, indicate an almost feverish anxiety to secure seed for next year. This is needless. There is probably enough in the country to meet all demands. There have been many thousands of acres planted this year, of which a large portion has matured. We shall be disappointed if there be not plenty of seed offered in the Spring at 15 to 30 cents per pound, if not at lower rates. It is yet too soon to form a correct estimate of the probable demand, or estimate exactly the amount to be offered for sale. We shall give it out quite freely in our next year's free Seed Distribution, to all subscribers wanting it in limited quantities.

A WORD FOR OURSELVES.

Many kind and well meaning friends, who have read and valued the *Agriculturist* for a dozen years or more, were, during last Winter, quite anxious lest this paper and its publisher should in some way get "mixed up" with the Chinese Sugar Cane, and in the end suffer thereby. At the same time, a few considerate (we would not say jealous) editors, tried to make a little sport of what they were pleased to style "Judd's Chinese Sugar Cane," with sundry winks and hints about *Morus Multicaulus*, *Dioscorea*, &c. Had we followed the advice offered quite freely, we should have wholly abstained from the distribution of the Su-

gar Cane Seed; but as there were no direct grounds for condemning it in advance, as we did the *Dioscorea*, &c., and as there was a general interest in the subject, and speculators were in the field taking advantage of the universal desire to try a little of the seed, and especially as we had good reason to believe the plant might prove valuable, we engaged in the work of supplying all who should ask it with a free parcel of the seed. We distributed among our own subscribers over 25,000 separate parcels, and in this way the growing capabilities of the plant has been tried in every part of the country. Some of the results are given above and elsewhere.

The course constantly advised by us in reference to the Sugar Cane was the same we would take with regard to any new plant, viz.: to first experiment on a limited scale for a season or two. A few of our readers are already censuring us for intimidating them from cultivating the Sugar Cane to a large extent the past season. They now think they would have profited by doing so. But while this might have been the case, it might have been otherwise. We deem it better to always take the safe side. We prefer even to be considered a little "old foggyish," than to run headlong into every new enterprise brought forward, because one thing in ten may turn out well. We did everything to disseminate the seed of the Sugar Cane, and to instigate and promote wide spread experiments, while, at the same time, we cautioned our readers against investing anything that they could not abundantly afford to do at the risk of losing the time and money expended.

We confess to not a little gratification at the results obtained from the new Sugar Cane, and in the part we have had in its introduction. It is now settled that the plant will be worth untold millions to the country. Our future course in regard to each and every new plant will be what it has been in the past, and we trust our readers may always be able to rely upon the *Agriculturist* as a conservative, but at the same time a wide awake friend and adviser.

HOW ABOUT THAT "AFRICAN IMPHEE."

Such of our subscribers as read the *Tribune*—and some others, are aware of the excitement raised last Spring, respecting a wonderful new plant that was destined to far eclipse even the wonderful Chinese Sugar Cane itself—we refer of course to the "African Imphee." For a time there seemed to be the prospect of a lively competition between Sambo and John Chinaman, for the honor of sweetening the Universal Yankee Nation. We promptly investigated the matter at the time, and became satisfied that Sambo was no where—or to drop the slang, we found no reason for giving even a hearing in these columns to any claims put forth for the "Imphee." Impelled by a host of inquiries, we, however, gave on page 142 (June *Agriculturist*), a brief explanation of some "seed transactions" which, we have been indirectly informed, lost us some love, and some money in the way of advertising. At a later period we declined even noticing Mr. Olcott's work on Sugar Cane after its appearance, mainly because of the prominence given to the "Imphee" in its pages.

None of us frigid Northern people were allowed to test even the smallest quantity of the seed of the new plant, though two or three of us did succeed in getting enough of it from France to experiment with, in a private way—the experiment is still going on, as the plants, though especially recommended for rapid growth, and early matur-

ity, entirely failed to get ahead of Jack Frost, and we have left them in the field to "sprout" again next year if they will.

The whole importation of African Imphee was carried south and planted on something over a hundred acres. Ex-Governor Hammond of South Carolina, and Richard Peters Esq., of Atlanta, Ga., with commendable public spirit undertook the labor and expense of testing the claims of the new plant. We may add that, while we were glad to have thorough experiments made under the auspices of our intelligent friends, we had our fears awakened as to the result with them, and so we stated to Mr. Peters, and others, during the Summer.

Several curious reports respecting these experiments having recently reached us indirectly, we wrote to Mr. Peters, requesting a statement for publication. His reply we give below, adding, that we think Mr. Wray, as well as Mr. Vilmorin, must have been themselves in some way deceived in regard to the worth of the Imphee, and especially as to the quality of the seed. Mr. Wray, certainly could not have hoped to have made anything among intelligent Yankees by monopolizing the sale of a hybrid seed. It is due to Mr. Vilmorin's reputation, as a careful and reliable seedsman, that he should make some explanation of the matter complained of below.

Further, while on this topic, we would inquire what has become of Mr. Wray's Patented process for making sugar from both Sorghum and Imphee? We have not heard of its successful application during the present season.

LETTER FROM RICHARD PETERS, ESQ., ON
"IMPHEE" AND SORGHUM.

ATLANTA, GA., NOV. 14, 1857.

ORANGE JUDD, ESQ., Dear Sir:

I have not a word to write in favor of the "Wray Imphee;" it together with that received from Mons. Vilmorin, of Paris, proved to be mixed with "Doural Corn," and other trash of the Millet tribe, and I can not for the life of me understand their object in introducing such a mass of worthless varieties of the Millet.

There may be some of the kinds that will prove of some value, but I am not prepared to say from the trial of this season, with 36 acres planted, that any one sort will be equal in every respect to the sorgho as a syrup making plant.

I have made between 3,000 and 4,000 gallons of very superior syrup from my crop of sorgho, and have sold it by the barrel at 50 to 75 cents per gallon.

I have not made trial of the sorgho syrup in the way of graining for sugar, for my cane juice this season was of an inferior quality as compared with other crops, caused by much of the cane having fallen down by too close planting on rich land, during a wet season.

You may rely on the sorgho being all that has been said in its favor as a syrup making plant, but for sugar, I as yet have strong doubts of its being made from it in quantity at a paying figure.

I have been shown some samples accidentally granulated, that prove its being convertible into true cane sugar, under peculiar or accidental circumstances, such as the quality of the juice, and the boiling being just as it ought to be.

Respectfully Yours,

R. PETERS.

THE SEASON IN ENGLAND.—THREE CROPS OF CLOVER IN ONE SEASON.—The "Mark Lane Express," of London, under date of Sept. 26th, says: This very day we know of the *third* cut of clover having been secured, which must be considered as a rare occurrence in this country, showing one

of the most favorable seasons witnessed for a great number of years.



THE TERRIER DOG.

Last month, in our "Farm Surroundings," we noticed the Terrier. We now give a drawing of one of the varieties, but not the "black and tan," which we then described. This is a *wire*, or rough haired "bull" terrier—a fierce pragmatical little fellow—full of energy and spunk, a determined enemy to all vermin, but rather crusty in temper, and not so companionable in disposition as the true "black and tan." In this cut the dog is cropped, both in ears and tail. It gives him a pert, saucy look, we admit, but such cropping injures his work. It is practiced almost unanimously with stable-boys, and in livery establishments, where they are most frequently kept, and partially so for fighting purposes—a barbarous practice—in which the vagabond propensities of their owners too frequently indulge, and to which the pugnacious nature of the bull-terrier invites them. And this is one objection we have to that variety. We dislike a bull-dog, anyway. We have always associated them with barbarity, rowdiness, and vice of the worst description. One of the most brutal characters Dickens ever drew in the most degraded hunts of London—Sykes, was in companionship with a ferocious bull-dog, who partook of every beastly sin of his owner, with scarce a redeeming virtue. Yet, perhaps the dog was the better of the two. We would have nothing of the kind about us. Still, if indispensable for the purposes of guarding the premises, that anything of the kind be kept, he should be confined at all hours that honest people are about, and his only service should be that of watching within the gates and enclosures.

Burglars, however, have a way of appeasing even the most ferocious of dogs—particularly the large ones. It is one of the tricks, as well as one of the secrets of their trade, of which they have many; and the consequence is that large dogs are oftentimes not so safe in their watching as the small terrier, which is quite as wakeful and more difficult to circumvent. Taken altogether, therefore we prefer the small terrier to any other.

"The "Skye," is another variety, a nice, little, long, soft haired terrier, quite equal in his rattling faculties to the black-and-tan. His name is taken from the Isle of Skye on the Western Coast of Scotland, where he probably originated. His temper is pleasant, and perhaps as mild, and agreeable as the other, with equal Sagacity and worth. Yet his long hair renders him less cleanly. With many they are great favorites, and as finely bred and cared for. Such as these are the only dogs we would ever keep, as we consider the common run of cur and game dogs abounding about the country as no better than so many common nuisances among the farmers, slaughtering their sheep, and committing all sorts of depredations with scarcely a compensatory advantage.

NOTES ON ILLINOIS FARMING.

NUMBER II.

Two Classes of Settlers—Fences, Value, Kind and Cost—Hedges.

To the Editor of the American Agriculturist:

In my former communication, the ease with which the prairie lands are brought into cultivation was shown. Thousands of acres are annually broken up and new farms opened. Of the whole number thus commenced, the owners of about *one-half* remain on these *new* places as permanent residents. The other half consists of a nomadic class, that is wandering beings, never satisfied in any one place. They either enter Government land, or buy from some railroad or other company at a moderate price, commence farming operations by putting up a *shanty* and a few rods of fence, and breaking from ten to forty acres of land. They raise a sod crop of corn, and sometimes a wheat crop, then a fit of restlessness takes possession of them, and thinking they are making money when they are able to get \$5 per acre more for their land than what they gave for it, they sell out, and make a new purchase either in the same State or farther West. These characters are of no real benefit to a community, as they never make any permanent improvements, nor study to advance the general interest of the neighborhood in which they live.

Another class of people take the place of these first, men who are industrious, go-ahead fellows, working the rich land as they worked the more exhausted farms they used to occupy in the older States. They make permanent improvements in culture, stock and buildings, of which the most prominent is

FENCING.

Of this there are three kinds most general, viz.; worm-rail fence, post and board fence, and hedges. There are also post and rail, and wire fencing. Vicinity to timber reduces the cost of fencing somewhat, as does vicinity to railroads. Timber being estimated at various prices and labor ranging from \$12 to \$20 per month, the cost of post and rail, and worm fence differ a little, governed as above. This station, Tacusa, Christian Co., is on the Illinois Central R. R., nine miles north from Pana, where it is crossed by the Terre Haute and Alton Railroad, and thirty south from Decatur, the crossing of the Great Western Railroad. Here posts can be procured, delivered at 8½ cents apiece, freight included. They are mostly white oak posts. Green oak lumber as it runs from the mill, is delivered here at \$17 per 1,000 feet, including freight; better qualities of oak, at \$18 to \$20. Much poplar lumber is sawed in Indiana, and shipped per railroad to Illinois at prices ranging from \$16 to \$25, per 1,000 feet.

Labor as before stated is variously estimated, less in Fall and Winter, than in Spring and Summer, the former seasons being the time in which fencing is usually done.

The posts are set in holes made by a post auger, or they are pointed and driven in, in wet weather, or immediately after wet weather. The posts are held by one man, while another stands in the wagon, which goes along the line with the posts, and drives them with a heavy maul. Many posts are set in this way.

Fencing plank is sawed 14 feet long and six inches wide. A lawful fence has five planks. Many are made on new prairie farms where hogs or sheep are not permitted to run at large, with but two or three planks, that number being sufficient to turn horses and cattle. The nails used are called fencing nails, being short, thick 8ts. The quantity of fencing put up in a day is governed by industry and activity.

A certain tact possessed by most American farmers, is necessary in making all such improvements, and the farmer must be *au fait*, that is, understand and *be able to do* any kind of work. Without being egotistical, I will merely remark, I hauled nearly all my own lumber from the Station, assisted in the carpenter's work of my house, helped to lath it, built the chimneys myself, and built my own dairy and barn, assisted by one farm hand. For a "lazy Southerner," this is something to talk of at least. [Dr. H. will succeed as a farmer—make a note of that.—Ed.]

Fences are to a prairie farm one third its value, and it will sell at a price very much greater in proportion than one not fenced.

HEDGES

are made in two ways; by planting seedlings, young plants of from one to two years growth; or by sowing the seed where the hedge is intended to be, and thinning out when up. Either plan will make a good hedge if *properly attended to*.

The hedge row should be well plowed and harrowed, and in mellow condition, before seeding or planting. Plants should be healthy and vigorous. A furrow, straight, clean, and about six or eight inches deep, should be run where the hedge is to be; the plants dibbled in six inches apart, and loose dirt hoed up to them, leaving them regular and clean. The first year they should be cut down twice, the first time within six inches—the next time within nine inches of the ground. The second year requires another shortening to a foot, after which they may be allowed to grow higher, having now well spread. They will, in the third year, be nearly or quite four feet high *when trimmed*, and many hedges may then be "turned out." I have referred to the Osage Orange, (*Bois d'arc*), plant, in speaking of hedges, which, when attended to as every such thing *should be*, makes, *in this latitude*, (39 $\frac{1}{2}$ °), a permanent, impassable barrier to biped or quadruped. Let those who doubt come and see.

American Hawthorn will make an excellent hedge, but the Osage Orange is quicker, and, I think, better for the purpose.

Wire fencing has as yet been but little resorted to on the prairies. The posts require to be close together, and the wires stout and well stretched. We have some in this neighborhood. At a future period I may be able to give you an account of its *standing*; at present it is just *suspended*.

H. H.

Tacusa, Christian Co., Illinois, Nov. 16, 1857.

WHY KEEP POTATOES IN THE DARK.

It is often observed by good housekeepers that their best potatoes come from the bottom of the bin or barrel, where they are the most effectually guarded from the light, and often covered with the soil that has sifted down from the upper layers. It is often recommended that this vegetable be kept in a dark cellar. It has been suggested that one reason of the deterioration of this vegetable is owing, in part, to the fact, that cellars in all the modern built houses are made much more light and airy, than they were thirty years ago.

The potato is in its most perfect condition when it is fully ripe, and has the largest share of starch in its composition. If it could be kept in the ground, without freezing so as to destroy its vitality, it would remain nearly unchanged in its character until the following Spring, when the increased warmth of the sun would excite the germs. Art should attempt to do what nature does perfectly, in the original home of the potato. It is kept in a cool, dark deposit of vege-

table mold until the Spring opens. In the good old-fashioned cellar which kept potatoes, when we were a boy, these conditions were very well observed. The bin was in the darkest, coolest part of the cellar, and the potatoes were deposited there with the dirt on them, as they came from the field, and they saw no ray of light, except that of a candle, from November until March. They were only kept from freezing, in the zero nights, by a thick covering of rye straw.

In the modern built house there is usually too much light and warmth in the cellar. The potatoes come in early Winter into the light and temperature of April. The reproductive instincts of the tuber are excited, the eyes begin to start, and the starch, which makes the potato so mealy and nice, as an article of food, begins to pass over into other compounds, favorable to the growth of a new crop. The cook complains of wet heavy potatoes. These prematurely sprouted tubers, it is frequently observed are not so productive as others. The reproductive energy seems to be weakened by this untimely light and heat. It looks reasonable that this course followed up for a long series of years, should have an unfavorable influence upon the health of the plant. Market gardeners are alive to this fact, and let their early potatoes, ripe in July, lie in the ground until November before they dig them. They are then kept in a cool, dark cellar, until it is time to start them for planting.

THE TIMES GROWING BETTER.

We are most happy to be able to say, in this last-written item of the year, that the "times" are really growing better. In one sense, this city is the great commercial heart of the whole country, and here matters never looked more hopeful than now. Gold and silver, the *real* currency, next to farm products, so to speak, were never more abundant than at present. The Banks of this city alone hold in their vaults, to day, nearly \$30,000,000 of specie, almost double the amount ever there before. The feeling here will gradually diffuse itself over the whole country. But, though gold is plenty, business is done more upon a "specie basis"—that is, the saleable value of all articles of commerce is estimated more by the comparative amount of gold and silver in the country, than upon the false basis of the amount of paper issues in circulation, as has been the case for a few years past.

It will take a long time, however, for the country to entirely recover from the financial blow received in October, but the improvement has certainly commenced, and will go on. The prices of various farm products will scarcely return to their wonted figures in some years at least, and it is useless to hold on to them with any such hope, but they will remain no lower, comparatively, than other articles for which we wish to exchange them. A bushel of wheat cannot be exchanged for *so much* gold as formerly, but it will buy as many articles of comfort, convenience and luxury. There is already, say in this city, as great a decline in the prices of sugars, teas, coffee, clothes, furniture, &c., as there is in the prices of grain and meat in the country.

There are, of course, exceptions to this general rule. For example, owing to the failure of a large proportion of the paper mills, there is but a small supply made, and we are actually now paying more for the white paper we print upon, than before the recent financial troubles. But this cannot continue. Capital will be turned into this channel, and paper, like everything else, must sooner or later come down to the changed order of things, viz.: the higher value of gold and sil-

ver, and the consequent lower scale of prices for everything else.

Let no cultivator of the soil fall into the fatal error of inactivity, because the *nominal* value of produce is declining. People must always eat and wear clothes, and he who raises breadstuffs, meat, wool, &c., &c., will be sure to find a market therefor.

Let us, then, take hold with a will, and begin to lay out large plans for next year. We may not get all we desire or expect, but if we would hit the moon let us aim at the sun. It is our pleasing task to endeavor to set before our readers the best modes of increasing, to the highest point, the products of the agricultural labor of the country, and we shall certainly aim at the sun. We now lay down the pen for 1857, to take it up at once for 1858, with renewed energy and hope.

"COLUMBIAN GUANO;"

When this article was first offered for sale in this city we carefully examined a sample of it, and pronounced it of little or no value. To a private offer of a quantity of it for our own use, at a very low rate, we replied that "we would not cart it home for it." This opinion was based upon its being entirely devoid of animal or vegetable matter. Several advertisements of the so-called 'Columbian Guano' have been offered for insertion in the *Agriculturist*, but since the examination above referred to, we have refused to insert them at any price. During September we were informed by a subscriber that he had purchased and applied a quantity of this material, under assurances amounting to a guarantee, of its superior value as a fertilizer, and that having tried it, and receiving no benefit, he had refused to pay for it, and had been sued by the seller. We therefore inserted the inquiry at page 227, October number, to call out information from those having experience with it. The following is one of the replies received.—ED.

To the Editor of the American Agriculturist:

In compliance with your request, I submit a statement of my experience of that humbug, sold under the name of 'Columbian Guano.' In August, 1856, I purchased a ton of it, in Philadelphia, and applied part of it on a field put out with wheat. It was put on broadcast with my own hands, and with much care, at the rate of about 400 pounds per acre, on freshly and deeply-plowed ground. It was covered with a good harrow, and the wheat planted with a drill. I left a patch large enough to see the difference, without the ground rock of the Columbian Islands (it is nothing but such), and there was not the least difference where it was applied and where not. In order to give it a fair, impartial, and full trial, I applied the balance (excepting one bag I still have in my barn) on the poorest ground I own, with oats, and put in precisely the same as with the wheat. The result was similar; that part of the field which had no Columbian ground rock applied was fully equal to the part where it was carefully scattered at the rate of about 400 pounds per acre. Had I shovelled up a ton of dirt from the turnpike, I would have had, unquestionably, a much better result; for in that some animal droppings would be brought on the ground, of which the Columbian humbug is destitute. The trash, freight, &c., thereon, left me minus \$45, without a cent's worth of benefit. This is my experience, and I give it without fear, notwithstanding the attempted intimidations from the dealers.

J. S. KELLER.

Schuylkill Co., Pa, Oct. 30., 1857.

KEEP THE STABLE FLOORS CLEAN.

We know divers people who take some pride in their horses and cattle, but who are inveterate slovens in their stables. Their racks, or mangers are so made that half the hay they give their stock is wasted and drawn under their feet. They don't clean their stables once a week, or a fortnight. We have, indeed, seen stables where valuable animals were kept, not cleaned out for an entire Winter, and the heels of the poor beasts stood a foot higher than their fore feet in the latter part of the season. We once hired a barn—a nice, newly built barn, too—of a man for the Winter; and when we went to put our stock into it, found that the horse stable sill was more than two feet above the ground, and the poor beasts had to leap that high to get into it, and fall down or make a leap every time they went out of it; and also, that full eighteen inches of solid horse dung had to be thrown out, taking a man half a day to do it before we could use it, besides repairing the entrance by a bridge that they could walk in and out upon. We scolded the owner soundly for his laziness—it was nothing else—and he only answered that “he hadn't time to clean it, and didn't see what harm it did the horses!” And yet, when we came to settle with him in the Spring, he wanted us to pay some dollars extra because we used a part of his barn floor to mix our cut feed upon, on the plea that in wetting our feed for mixing, it rotted his floor *during the Winter!* His half a dozen loads of horse dung seething, and fermenting through a long hot Summer, didn't rot the stable floor! Oh, no. Just so *some* folks are constituted.

A stable where stock is kept, should be cleaned out once a day, at least, and twice is none too much. In all our stable practice we clean the stables twice a day, and shake up the bedding, let the weather be as it will. On the floors of our calf and sheep stables we scatter dry litter. When that gets thoroughly soiled and saturated, we clean it out and supply its place with fresh. The ammonia arising from the *stale* of stock in the stables becomes, in a short time, very offensive to them, as it is to ourselves. It penetrates their lungs and gives them disease. Its pungency affects their eyes, making them sore and irritable, and is a positive injury, to say nothing about the slovenness of leaving the stables unclean. Cleanliness, indeed, is as necessary to beast as to man. No creature can thrive when fouled and besmeared with ordure.

When horses (not mares) and oxen stand regularly, holes should be bored through the floor to let their stale run through on to muck below, or into a trench by which it may pass off and be saved. Otherwise, it remains under them to make them uncomfortable when they lie down, unless they have bedding enough to fully absorb it, which is not always convenient. Our own plan of stable flooring is to raise that part on which the animals stand two inches—the thickness of the plank—above the passage behind, and sloping from the foot of the manger back, to give a fall of one to two inches in the distance of six or seven feet of floor on which they stand, to admit the stale to pass off readily, as well as to let the droppings on to the lower level behind them.

BEST THINGS TO GIVE.—The best thing to give to your enemy is forgiveness; to your opponent, tolerance; to a friend, your heart; to your child, a good example; to a father, deference; to your mother, conduct that will make her proud of you; to yourself, respect to all men, charity.



WINTERING CALVES.

Calves should have loose stables, or stalls, to run in during the Winter, with a little yard or paddock for exercise out of doors in fair weather, and plenty of air always. Good soft hay, a few oats, say a pint a day for each, or an equal quantity of corn, oats, or barley meal, and in mild weather a quart of sliced roots is their best food. In very cold weather, roots do calves—such is our experience—more hurt than good. They are cold and watery, and scour them. In mild weather, roots supply the place of *green* food, and we consider them good for that only, in our Northern climate.

If calves get lousy, rub a little *soft* grease, mixed with a sprinkling of Scotch snuff, on the affected parts, thoroughly to the skin, and the lice will leave at once. If you have not the snuff, grease alone will do. This is effectual, and the only remedy we have applied for years. Tobacco water we do not like. It often sickens the calves, and is not so certain a cure as the grease. Keep the calves warm, dry and clean, and they will come out in the Spring as bright as larks.

WINTERING LAMBS.

The same food and treatment applied to calves will succeed equally with lambs. If they get ticks upon them, Scotch snuff distributed along the back, by opening the wool and rubbing it well in, will destroy the ticks. Do not crowd too many lambs together, and separate the strong from the weak. All animals are selfish, and have no sympathy for their inferiors. The larger, of whatever kind, will overrun the smaller, drive them from their food, and starve them out altogether.

Old, or weakly sheep, may be wintered in the same stables or sheds with lambs; for, if the old sheep be larger and stronger, the lambs are spryer, and can better dodge about them for their food. They all require fresh air, and plenty of it. Dry cold never hurts a sheep, but rains in Winter are frequently injurious, particularly if of open-wooled varieties, as they soak to the skin and give them severe colds. A severe snow storm, if dry, is less hurtful than a warm rain, and a sleet is worse than both together.

WINTERING COLTS.

A snug shed, or stable, is best for Wintering colts, provided they be halter-broke, which they should be before Winter sets in. They will eat all sorts of coarse food, but should have a little grain or meal, say a pint to a quart a day, according to their size and age. They should, if convenient, run out a part of the day. They love to forage on a cattle dung heap, and pick out the waste litter. Let them have all they want of it, as it is a healthy variety for them. A dry pasture, when snow is off the ground, is a good

change for them also. We have Wintered many colts in our farming, and found that nothing got through the season easier than they. Their hair gets long and sometimes rough. No matter, there is a close fur under it, and it keeps them dry and warm, and they are all the better in the Spring. Enough to eat, with good shelter, is all they want to keep them healthy and growing. But they should not run out with the cattle, as they are liable to get hooked, while they, in turn, drive the cattle from their food. Every one to his own kind in the farm-yard, as in other appropriate places.

HOW TO GET UP A FARMERS' CLUB.

A farmers' Club, or Agricultural Society, in any neighborhood, is a good thing. We have seen abundant evidence of their utility—their profit. We venture to say that any thickly settled neighborhood, so fortunate or so wise as to get up and keep up a spirited Farmers' Club for two or three years, will add at least *ten per cent.* to the aggregate production of the farms. This is a large statement, but it is not an unfounded one.

We can, perhaps, best illustrate the advantages of such an association by describing how to form one, and to do this we will give the history of one organized in Ohio, two years ago. As our information is from a private letter, without liberty of publication, we will substitute assumed names for the real ones.

Mr. Williams having read much of Farmers' Clubs, elsewhere, proposed to Mr. Johnson that they should try what they could do in their own neighborhood. They talked the matter over with Mr. Smith, Mr. Clark, Mr. Hudson, Mr. Morris, and two or three others, and before much stir was made, or any opposition created, the scholars were startled by the following announcement, read by the teacher, at the close of the school on Saturday:

“SPECIAL NOTICE.—There will be a general meeting of farmers in this room, at half-past seven o'clock next Tuesday evening, to attend to some important business of interest to all.”

The teacher remarked that he did not know the author of the notice, but that he was assured by a private note that the meeting was to be an important one. The scholars carried home the report, and it soon became noised abroad through the whole neighborhood. The authors of the affair seemed to be quite as ignorant as any one of the whole matter, but they took care to talk a good deal about the Notice, and to make as many inquiries about it as possible, and advise everybody to be on hand.

Well, on Tuesday almost everybody came over to the brilliantly lighted school-house, to see what was going on. When the room was pretty well filled, Mr. Johnson rose and moved that Esquire Saunders should be Chairman, which was carried unanimously. Esq. S. took the Chair, thanked the audience for the honor, and requested that some gentleman would state the object of the meeting; as for his part he had dropped in out of curiosity, and did not know what they had come together for. Mr. Clark rose and stated that a few farmers had been talking over the matter, and they had come to the conclusion that it would be a fine thing for the farmers of the neighborhood to meet together and have a friendly talk about things that pertained to their mutual interests. They had often met to discuss politics and other topics, and no doubt each one had carried home some new ideas. Now he did not see why they could not just as well talk about feeding ani-

mals, manuring land, what crops paid best, what implements were best, the best mode of making butter, &c. Mr. Williams, Mr. Smith, and Mr. Hudson, offered similar remarks. Mr. Smith said it was well known that Mr. Seymour got the best crops in the neighborhood, and had the best animals, and he did not see why they could not draw out of him some of the particulars of his mode of farming which would benefit all the others. He therefore proposed that they should form a Farmers' Club on the spot, and hold weekly meetings to talk over matters of this kind. They could try it at least. Without waiting for any opposition, it was moved and carried to form a FARMERS' CLUB. With no delay, Mr. Williams stated that he had prepared a draft for a CONSTITUTION, which he would proceed to read:

ARTICLE 1. This Association shall be called the Farmers' Club of District No. 7, of Clinton Township. Its object shall be to promote improvement in the modes of Agriculture pursued by its members, by such means as shall seem most feasible to the members, to be directed by them from time to time.

ART. 2. Any person over 12 years of age may become a member by giving his name to the Secretary and paying the sum of 10 cents.

ART. 3. The Officers shall be chosen by a vote of the majority of members present at the first meeting in each month, and shall consist of: a President, to preside at all meetings during the month, keep order, &c.; a Secretary, to enrol the names, keep records of the proceedings, issue notices of meetings, &c.; a Treasurer, to collect and take care of the funds, and expend them as directed by vote of the Society.

ART. 4. The exercises at the meetings shall consist of discussions, or familiar talks upon some agricultural topic, or topics chosen for the evening.

Mr. W. stated that he had drawn up these articles in the simplest form possible, and he thought they were all that were necessary for organization. They did not want a long list of rules, regulations, by-laws, &c., to wrangle about. If anything more was needed it could be added when desirable.

The adoption of the above Constitution was moved and carried; officers were immediately nominated and appointed, twenty-three names were given in to the Secretary, and in less than forty minutes from the first calling of the meeting to order, the Club was fully organized, and the whole thing under way.

Mr. Morris immediately rose and stated that he had a large quantity of manure in his yard, and was very much in doubt whether he should cart it out now upon the fields, or leave it in the yards until Spring. He would like to know what Mr. Rogers thought about the matter. Mr. Rogers was a successful farmer, who was dead set, in words at least, against "book-farming," and from him most opposition in the formation of a Club had been expected. But he gave his opinion very freely, in a familiar way, in answer to the question of Mr. Morris, and really communicated much useful information drawn from his experience. Mr. Morris asked several questions of him, and proposed several objections, and these were talked over by at least a dozen others. Indeed, the talk was so lively and interesting that the meeting held on to nearly ten o'clock, and the farmers then went home in companies of two, three and four, talking over this matter of manures. No vote was taken, and none was needed, but many were set to thinking, and at least some gained new ideas.

Before the meeting was dismissed, it was proposed that they should come together in one week and talk over the best time to cut timber for fencing and other purposes. At the appointed time, a large crowd came, and almost every one had something to say of his experience.

At this and succeeding meetings no strict formality was observed, but everything was done in

a social, familiar manner, and the whole neighborhood, in time, became acquainted with the successful or unsuccessful experience of nearly every other person in the place, upon almost every department of farm labor. The farmers' wives and daughters soon took part in the meetings, and they are kept up to this day, with no diminution of interest. In Summer, they hold their meetings around, from farm to farm, and examine and talk about the modes of culture pursued by each one visited. We will here name some of the various topics discussed at the successive meetings of the society, as they are recorded in the Secretary's book:

QUESTIONS TALKED ABOUT.

Is lime good for our soils, and when and how to be applied? The same of plaster. The same of ashes. Shall we sell ashes for 10 cents a bushel, or use them on our land? Is Barley a profitable crop? Can we produce Honey profitably, and what are the causes of failure? Are Beets and Turnips worth raising in the field, what kinds are best, and when and how should they be cultivated? Does Buckwheat pay to raise for grain, and to plow under? What is the best form for a general farm Barn. How are calves best raised, with the cow or by hand? Are field Carrots worth our cultivating for feeding stock? Is Cheese or Butter-making most profitable, and the best modes of making each? What varieties of Corn are best for our soil and climate, and what is the best mode of culture. How shall we drain our wet lands in the cheapest and best manner? Are fowls profitable? What Hogs are best? What Fencing is cheapest? Does Fruit-raising pay, and what kinds of apples, &c., are best? Is a large garden profitable or not? When shall we sow Grass Seed, and what kinds are best here? Should Corn be "topped"? Best mode of treating Manures in the yard, &c.? Plowing in Clover and other crops for manure. Has the Moon any influence on crops, sowing, &c.? Are Mowing Machines profitable, and what kind does best? Ox-yokes, Harness, &c. The best Plows, time and mode of Plowing. Does "Pork" making pay? The culture of Potatoes. Best season for Pruning Fruit Trees. Tobacco Culture. Are shade trees injurious to pastures? Will root crops pay? What culture, various modes, time of sowing, best soils for, &c., &c., (discussed at three meetings.)

These are some of the topics already discussed, or talked over, and a large list of subjects are yet untouched, such as selecting Seeds, Broom Corn culture, Birds and Insects, Clover Seed, Flax, Sweet Corn, Swamps, Muck, Gang Plows, Harrows, Cultivators, Hay Caps, Leaves, Saw-dust, Oats and other grains, Pumpkins, Strawberries, Sugar-Cane, &c., &c.

Now, who cannot see that the getting together of a company of practical men, from time to time, and the relation of their varied experiences, will result in mutual benefit? Said a farmer to us, once, "I never met even the poorest farmer and talked with him four minutes without getting some new idea, or being led into some new train of thought." We doubt not this is the case with every thinking man. How much more useful then to meet a dozen, or a score of men, engaged in a similar occupation, and listen to an account of their experiences, &c.

Let us, then, have such agricultural gatherings all over the country. The *Agriculturist* goes into nearly fifteen thousand neighborhoods,—in some only a single copy, in others from six or ten, and from that up to forty, fifty, and a hundred copies, and we shall certainly feel that a good work is done if the above account should be the means of starting a Farmers' Club in one half or one-fourth of these neighborhoods.

KEYSTONE CIDER PRESS.

J. Holt, of Pittsburgh, Penn., writes: "I have read your article on the Cider Press. I have worked one, and I believe their good qualities are greatly exaggerated. I found it difficult, with my two boys, to make one barrel. What kind of barrels your correspondent uses I cannot tell, but

if he means 36 gallon barrels, he would need to shovel in the hopper from 120 to 150 bushels, then grind them, then shovel them out of the box into the press, and then squeeze them. I think it is a thing impossible, even with horse power, but it would be well for you to make a calculation and let them judge for themselves."

REMARKS.—Mr. Holt has either made a large error in his figuring, or apples in his region must be very *dry affairs*. The correspondent referred to (see page 227) put the capacity of the Mill, worked by himself and two boys, at *five* barrels a day. We have found 8 bushels of good, or 9 to 10 bushels of poor apples, enough for a barrel of cider. Mr. Holt calculates upon 24 to 30 bushels of apples for a barrel of cider. We think it not a hard job for a man with two boys—if at all sizeable fellows—to grind and press 40 bushels a day, that is about as many as would fill a common two-horse wagon-box one and a half times.—Ed.

HOG CHOLERA.

We have, as yet, been unable to respond to the anxious inquiries of many of our Western readers, respecting the causes, preventives, or cure of this fatal disease. The following report on the subject is from Dr. Jas. Higgins, of Baltimore, the State Agricultural Chemist of Maryland, which we give without being qualified by our own experience, or observation, to endorse or gainsay the conclusions, or practice recommended:

"The public attention has been for a long time directed to the existence of a fearful malady amongst hogs, under the above name. It has prevailed for more than a year in the large distilleries of the West and South, as well as in the small pens of country farmers in the East and North; it has committed serious ravages in the Southern and Middle States, and early in the Spring I was called on by the owner of a large distillery here to attend to his hogs, which were rapidly dying. I went at once to see them, and obtained for examination the blood of many of the hogs in perfect health, for the purpose of comparison with that of those in the act of dying.

These examinations, carefully made, revealed the fact of a high inflammatory condition of the system, as the subjoined analysis shows:

Healthy Hog Blood—Clot firm, not large, scarlet colored; solids, normal; fibrin as 2.33 per 1,000.

Discased Hog Blood—Clot not firm but large, brown colored; solids less than in the healthy; fibrin as 5.60 per 1,000.

The blood in each case was taken from the arteries.

This condition of the blood evinced a high degree of inflammatory action, but did not show in what particular organ or organs, structure or structures, the inflammation was located. To discover this I made numerous *post mortem* examinations, and found, 1st: The brain, healthy; the heart, do.; the stomach, do.; bowels, including the greater or lesser intestines, do.; kidneys, do.; liver, do.; melt or spleen, do.; lungs intensely diseased; in the upper part they were engorged with dark, grumous, bruised-looking blood, and in the lower lobes the inflammation had proceeded to suffocation, being filled with purulent bloody matter, and entirely incapable of carrying on the process of breathing. The left lung was generally more affected than the right, and in every instance the inflammation had proceeded to a greater extent in the lower than in the upper parts of the lung—in some cases the peculiar structure of the lung could not be seen, so entirely had it become disorganized. In no cases were well-de-

finned abscesses found, nor was the windpipe inflamed but a short distance from the seat of the diseased lung.

Symptoms.—The first symptoms were a laziness on the part of the animal affected, some loss of appetite, a kind of husky grunt approaching to a cough, sometimes a slight purging of the bowels, and a yellowish colored urine; then the animal would become more weak and seem to be paralyzed in the small of the back, totter about for a short time, and finally lay down and die.

The treatment was divided into two parts—prophylactic (preventive) and curative. With a view to the first, the pens were scattered over with plaster of Paris and water-slacked lime, whilst at the same time, they and the troughs were washed with gas tar.

The curative treatment was the administration of soda-ash and barilla. There is some trouble in the solution of barilla, and on this account soda-ash should always be used with it. About ten grains of soda-ash and the same amount of barilla should be given to each hog two or three times daily, mixed in their food. This should be given to the healthy as well as the sick hogs. To the well it does no harm; to the sick it is a successful remedy.

As in the human species, so in hogs—inflammation of the lungs is a most insidious disease, going on to the destruction of the patient before the mere symptoms give cause of alarm, and in many instances hogs which appeared healthy were yet seriously affected with lung inflammation.

The above remedies were used on about three thousand hogs, and in the utmost intensity of the disease. The number of their deaths diminished seventy-five per cent on the second day after their administration, and in a short time the disease disappeared from the locality. As soon as the hogs were manifestly sick they were put in pens by themselves, and subjected to the above treatment. Of these about thirty per cent recovered, whilst before all died.

Causes.—It is a disease of general atmospheric origin, influenced by special, local, exciting causes, such as the sweating sickness, blackdeath, cholera, and other epidemics, which at different times have devastated, more or less, all parts of the earth, and of whose intrinsic nature we know but very little. It is not confined to distilleries, but has also proved destructive in the country. It is not produced by strychnine, or any vegetable or mineral poison.

The disease attended with swollen jaws, the proper name of which is hog quinsy, prevailing in some parts of the State, has no connection with the above, and can be most successfully treated by making incisions over the swelling and then pouring in a small quantity of salt and turpentine.

I should be obliged to persons throughout the United States, who have observed this disease, to examine the blood and the different organs, and report to me the results; should any be incapable of making an analysis of the blood, I will with pleasure furnish them with the instructions how to perform it.

TRIALS OF SPEED.

To the Editor of the American Agriculturist:

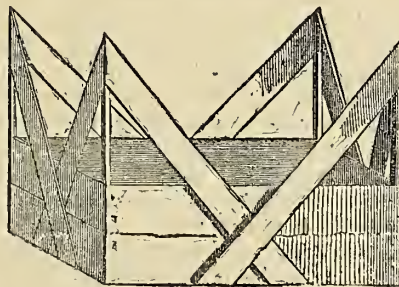
I am pleased with the remarks in your paper for November, page 247, on Agricultural Shows, as conducted of late. I have attended the State Shows in this and an adjoining State, and several of the County Shows, the present season; and am free to say that the all-absorbing topic with the multitude, on those occasions, was the race course. The best and most successful Show that I have attended, was in a county where no race

course was constructed, and where no trials of speed are allowed.

What benefit comes of such trials! Are the animals improved thereby! Does any man who wishes to buy a horse for his own or his family's use, ever think of putting him to the top of his speed! Will he think any better of an animal for these uses, that will go a mile in 2.40, than one that uses 4 minutes in going a mile. Jockeys, and jockeys chiefly, are admirers of this extra speed. If there were any good in it, there is so much more evil than good appertenant thereto, that I am glad to find you, as one of the guardians of the habits of society, have set your face decidedly against it. Pardon my presumption in thus speaking. I know that the case will be argued much better by yourself.

J. W. P.

Essex Co., Mass., Nov. 2, 1857.



CATTLE RACKS.

To the Editor of the American Agriculturist:

Among the contrivances to keep fodder from being trodden under foot by cattle when fed in the yard, I have found a kind of feeding box like the above to answer a very good purpose. It is very easily built by any one who can use a saw and hammer. It consists simply of four upright posts, say five feet in length, with boards nailed to them as seen in the engraving. Three by four inch scantling is sufficient for the corner posts. The eight boards, two on each side, of which the box is first made, should be about six feet in length and fifteen inches in width. If they can not readily be found as wide, use three boards in height, or leave a narrow space between two. The frame should be sufficiently high to prevent cattle from stepping over the sides. To guard against this, as well as strengthen the whole, it is a good plan to nail narrow strips of plank flatwise across the upper end of the posts. These are not shown in the engraving. Next nail two boards diagonally upon each side, extending from the top of the posts to the bottom of the box as represented in the cut, leaving a space of about two feet between them at the centre of the frame, on a line with the upper board. These boards strengthen the whole and make four feeding places for the cattle. The rack is now complete. Stand it in a dry part of the yard and throw in a fork full of hay, straw or corn stalks, and four animals will soon take their places upon the different sides. The posts and slanting boards prevent any tyrannical ox from driving away his next neighbor, while the width is such that the opposite animal can not be reached. Whenever desired, the frame can be lifted and set in another part of the yard. Unless the ground is dry it is well to lay a few old rails in the bottom. In a large yard four, six or eight or more can stand in the different parts, and with proper use they will last for several years.

T. C.

Kennebec, Me., Nov. 3, 1857.

THE CRESCENT.—It has been asked among other curious questions, why the Mahomedans carry the crescent or figure of the moon upon

their shields! When Philip, King of Macedon, approached by night with his troops to scale the walls of the city of Byzantium, the new moon shone out unusually bright, and discovered his troops to the besieged, and they were able to meet and repulse them. The crescent, or shape of the new moon, was afterwards adopted as the favorite badge of the city. When the Turks took Byzantium, they found the crescent in every public place, and believing it to possess some magical power, adopted it themselves, and it has since retained its place on all their shields.

VISIT TO A PENNSYLVANIA FARM.

Tired of City Life—Chinese Sugar Cane—Refinement among Farmers—Description of a Poultry House.

[The writer of the following communication will be recognized by many of the former readers of the Pennsylvania Farm Journal.—Ed.]

To the Editor of the American Agriculturist:

A visit made a few days since to the farm of M. W. Baldwin, the great locomotive builder of this city, has given new life to my farming notions, and affords ample material for new and lengthened dreams of what I shall do when kind Providence smiles upon my efforts to get away from this din of cart wheels and brokers' tongues, into a more quiet and honest atmosphere, where the fruits of one's labor is ever before him in the substantial staples of human existence unprotected by lock or bar, instead of a piece of paper three inches by six promising to pay at some future day, three other promises to pay—which may be all right, provided no fright dims the sight of our "necessary institutions,"—inducing them to say, we can not pay, 'till things clear away—though if you want food, we'll mark your check good; for we want to assist, but to open our fist it is not our intention—unless the people say, you must and shall pay; and to put that day very far away we confide in our Legislature.

The chief object of our visit to Mr. Baldwin, being to witness the manufacture of the "Sorghum Syrup," we repaired immediately to the field where the cane was growing, and where also the mill was stationed for pressing out the juice. Here we found the farmer, J. F. Lukens, overseeing his men and busily engaged in selecting the best seed for sale and planting next year. He soon introduced us to the whole *modus operandi*, and although by no means complete in his arrangements for "boiling down," yet such is his entire success, and so strong his faith in its becoming an economical and even profitable crop of our States, that he anticipates providing himself another year with all the equipments necessary to an easy and expeditious manufacture of the syrup. The result of his experiment is about four hundred gallons of syrup from the acre, which he is now disposing of at 75c. per gallon, less 10c. per gallon for commissions; and about sixty bushels of selected seed. It will be of immense service to your readers to keep them thoroughly posted up as to all the merits and demerits of the subject, which will be developed by this year's experiments; for from present appearances it would seem that a large amount of capital will be invested another year for making the syrup, unless some counteracting evidence appears in time to prevent the outlay.

Having satisfied our curiosity here, we proceeded to view other portions of the farm and the buildings, all of which spoke well for the superintendence of Mr. Lukens, whose kind and gentlemanly attention and freedom of converse, added greatly to our pleasure and knowledge. And by the way

let me here remark that polished manners, and refined conversation do not destroy the *manliness* of a farmer in the least; neither do they impair his powers of endurance; but rather add lustre to his character, and shed light and happiness all around—in fact I should prefer the life of the spendthrift or the jockey, to that of the farmer who has lost his mentality, who simply drudges *without thought*, for it is equally prejudicial to his eternal happiness, without one particle of enjoyment of even the things that *are*. All the beauty and marvelousness of the Creator's works are lost in the gross lethargy and impenetrable darkness that pervades the citadel of his thoughts. He fails "to consider the heavens, the works of God's finger the sun and the moon which he has ordained;" he rises early in the morning only to commence drudging, and beholds not "the Sun as a bridegroom coming out of his chamber, and rejoicing as a strong man to run a race;" he hails the revival of a faded world after a genial shower, with the unthankful grunt "I guess we've had rain enough," while the grateful thought, "Thou God renewest the face of the earth," never enters his beclouded mind—he sees after the pigs and the poultry and talks about his men "gwine for to haul out some dung," but he never sees "the birds building their nests, the springs running among the valleys, the grass growing for the cattle, and herbs for the service of man." But let the springs cease to flow, and the grass and herbs cease to grow, then see how quick he is to perceive it. God himself has said, "I will that men magnify my works which they behold"—But to return. The poultry yard and houses were in excellent order, and the latter arranged in a manner very conducive to the comfort of the fowls. They were divided into several apartments or rooms. A description of one will answer for all. Suppose the room to be 20 feet long by 10 wide. Along the back part is a pathway, by the side of which and in front are tiers of boxes for nests, with openings in front and small hinged doors in the rear along the path, through which the eggs may be gathered without letting the hens see you. Immediately over the nests and extending downwards in front, at an angle of about 45°, are the roosts made of lath about 12 inches apart, and close to which, on the under side, at the same angle, is a tight board floor, which being sprinkled with a little powdered lime*, serves to convey all the droppings into a trough below, and which with all other portions of the house, are thoroughly cleansed every day, and the rich gleanings carefully deposited in a receptacle provided for the purpose, to disappoint, so far as it goes, Johnny Bull's holders of Peruvian Bonds.

Leaving the poultry, we proceeded to the park, the gardens, the vineyard, the green house, tool house, seed room, duck and fish ponds, &c., &c., all of which, though furnished and decorated with much taste and even splendor, served only to deepen our admiration for the plain, unostentatious, substantial and inexpensive indispensables of an old fashioned farm house. Other matters connected with our visit, including a most bountiful supper and a break-down (*going home*), I will not now trouble you with.

HARDY.

PHILADELPHIA, Nov 6, 1857.

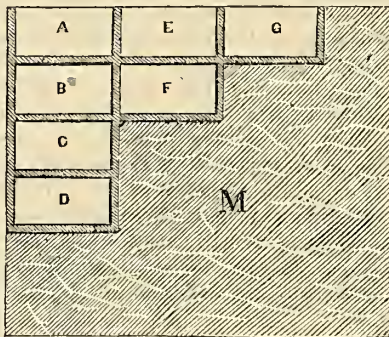
* Lime should never be used with poultry droppings as it expels any ammonia formed. Plaster is far better.—Ed.

A CURIOSITY.—The Hightstown Excelsior, N. J., of Oct. 1st, '57, in referring to the *Agriculturist*, says: "This is undoubtedly the cheapest and best agricultural periodical published. The man who could not get the worth of a dollar from a year's perusal of it, would be a curiosity." So say all.

HOW TO DIG MUCK IN WINTER.

This strikes most persons, as impracticable business. The common impression is, that most swamps are so wet, that the water would follow one faster than he could throw out the muck. But in a great majority of cases, where the peat or muck lies in swamps, that are only overflowed in times of heavy rains the digging can be carried on in all pleasant Winter weather, when it is suitable for men and animals to be at work out of doors. Many of these swamps are in hollows, or are sheltered by woods and brush, so that the force of the keen Winter winds is broken.

Of course, the more you can free the surface from water, before commencing operations the better. The muck swamp has generally an outlet, and by a little ditching at this spot, the water can frequently be drawn off from one to two feet. If we can make the water level two or three inches below the surface of the swamp, there is no difficulty in working the muck mine. This article may even be procured from many spots in the Winter, that are inaccessible in warm weather. The surface is now frozen, so as to bear teams, and heavy loads, and we can drive directly to the loading spot. The solid surface is easily broken with a crowbar, or cut with an old ax. The only enemy to contend with is the water, which flows into the pit from which the muck is thrown out, but this can easily be overcome. If the surface is frozen no water will come in from the top, and you will only have to guard against that which oozes in very slowly from the sides of the pit. This is best done by digging the muck in a series of narrow pits, and carting it off as fast as you dig, or within a few days. The accompanying diagram will illustrate the method of proceeding.



M, is the muck or peat swamp. Commence at one corner, or in any spot that may be accessible to the team. Mark off the pit A, in the form of a parallelogram, say eight feet wide, and of any length, that your laborers can finish in a half day. Eight feet is about the right width for depositing all the contents of the pit upon both sides. If, for any cause, you wish to throw it all upon one side, the pit should be only four feet wide. The length will have to depend upon the depth of the muck, the number of men employed in spading, and the rapidity with which the water flows in. The quicker you can throw it out, the less the water will trouble the workmen. Hence it is better to have three or four laborers for this kind of work, than one. If the muck is four feet deep, every four feet of the pit in length will make a cord, and a good workman in clear digging, ought to throw out twelve feet in length, or more, in a half day, that is three cords. In ordinary cases, when the pit is cleared there will not be more than four or five inches of water in the bottom. The water will often not reach its level in this pit for twenty-four hours or more. Of course there is a drainage from all sides of the pit, making the surface drier, and the water less troublesome.

You have now the pit A, cleaned out with a

bank of muck on each side. If the muck is carted off as fast as thrown out, you can proceed in the direction of B. If it is not, you can proceed in the direction of E, to mark off the second pit. Care should be taken to leave a strong partition, at least eighteen inches thick, between the pit A and E. It is a good plan to let the muck stand long enough, say three or four days, for the water to drain out of it. It saves nearly half the expense of carting. We would therefore recommend that the work proceed on the second and third days in the direction of pit A. When the muck is carted off from the banks of the pit A, you can begin with the second tier of pits at B, and proceed as before. Care must be taken to leave the banks at the sides of the pits a little stronger than at the ends.

After a short time, the water in the first tier of pits will be frozen hard enough to bear, so that the muck from the second tier can be thrown on to the ice. Proceeding in this manner, you waste little of the land in embankments, and are not much troubled with water. With good waterproof boots this is really not so uncomfortable, as many other kinds of work done in Winter. It is safe and profitable, and such glorious crops as it makes will be a glad sight for the eyes in harvest.

EXPERIENCE WITH MUCK.

To the Editor of the American Agriculturist:

Having been a reader of your paper for some time, and noticing the particular points and suggestions in it, I have acted accordingly, in a measure. The great trouble with Connecticut farmers, is the want of manure, and although the majority of them have the material in abundance, they neglect to accumulate, and compost it, and are the losers thereby. The cry has been in your paper, muck, muck, use muck, leaves, &c, and I write now to give you a very brief history of my success in using this cheap and abundant compost.

In the Summer of 1855 I had an upland lot, preparing for wheat or rye, and having no funds to spare for the purchase of guano, bone dust, &c., I concluded to try what could be done at home. With a team and man we commenced drawing muck from a pond, and in four days had one hundred loads on two acres of ground. The ground was again plowed, thus mixing the muck, and on the 15th of September was sown with wheat. It was harvested the following July, and when threshed and exhibited at the County Agricultural Fair received the premium for being the best wheat exhibited. The next season the plot was sown with oats, and such a crop was never raised on the old homestead, and all without any other manure. This season we have put eight hundred loads on five acres, sown to wheat and rye, and expect to be able to give you and the farming community as good a report, if not better, from the crops next summer. In addition to the above, on the first lot, we this Summer cut, per acre, three tons of as good timothy hay as was ever housed, and up to this present writing, the feed is good, and cows easily fill themselves from it daily. Let every farmer, who can, try an acre with muck, and he certainly will be repaid four-fold.

More anon,

Doctor.

West Norwalk, Ct., Nov. 4, 1857.

A "Fast" man undertook the task of teasing an eccentric preacher. . . . "Do you believe," he said, "in the story of the prodigal son and the fattened calf?" . . . "Yes," said the preacher. . . . "Well, then, was it a male or female calf that was killed?"

"A female," promptly replied the divine.

"How do you know that?" . . . "Because, (looking the interrogator steadily in his face,) I see that the male is alive now."

LARGEST YIELD OF CORN ON RECORD.

A correspondent writing from Vanderburg County, Indiana, informs us that at the State Agricultural Exhibition a Silver Pitcher was awarded for the best *five* acres of corn. The award was made upon the decision of three disinterested men in each town, who examined the corn growing in the fields, and measured one acre of each plot. They then made oath to the yield of the single acre, and of the whole five estimated from the acre actually measured. The award made, under oath, was for 857½ bushels of shelled corn on five acres, or 171½ bushels to the acre.

If this has been excelled at any other time, or in any other place, we shall be glad to hear of it. Till we do we shall put VANDERBURG COUNTY, INDIANA, at the head of the corn column—unless we hear of some mistake in the above report.

A TALK ON ORDERLY FARMING.

There is so much disorderly farming in vogue, we have thought we might do a useful service in drawing a picture of the opposite; we mean a style of husbandry which has a place and time for everything, and does everything in its place and time; which seeks, in short, to carry on all the operations of the farm in the best possible manner. It cannot be denied that very many farmers lack the quality to which we here allude. They plow and manure, and rotate crops; they buy, raise and sell stock, and manage their household affairs very much at hap-hazard, with little forethought and method. We are well aware that it is hard to resist the power of bad example; that it is easy to do as our fathers did before us, and as our neighbors do around; that unforeseen circumstances will arise to break in upon the best matured system: we admit all this, yet we know that it is best to reduce our style of farming to a well-digested plan, and to strive by all means to make circumstances bend to that plan. By firm resolution and energy, more can be done in this matter than is often supposed. There is meaning in the old proverbs that "Fortune favors the brave," and that "The lucky man is generally the energetic and industrious man." But now to our picture:

Health.—The orderly farmer takes care of his health. He does not expose himself unnecessarily to wet and cold; does not go with damp feet and insufficient clothing; does not overwork himself in planting-time, and in haying and harvesting; does not worry himself with undue anxiety about the weather, or the success of crops, and so expose himself to the assaults of disease. He keeps his head cool, his heart cheerful, his passions under control, and so builds up and fortifies his citadel of strength that he is seldom interrupted in his daily labors.

Buildings.—Look now at his buildings. His dwelling-house is not, indeed, pretentious; that would be out of keeping with the character of the man, and of his employment; but it is comfortable, convenient, neat. It is roomy, like his heart. It is a good protection against all the vicissitudes of the seasons. What a spacious cellar! How well arranged for storing all kinds of fruit and vegetables, and the various other articles needful in good housekeeping. And then, it is frost-proof and rat-proof, and is kept as "neat as a pin." The rooms above ground are planned for convenience in dispatching household duties. The parlor and living-room look attractive; kitchen, pantries, closets, milk-room, wood-house, well-house, cistern, sinks and drains, are all just where they

should be, or as near to that as possible. His barns and other out-buildings have no ginger-bread work about them, but they are substantial, suited to their purpose, and are kept in repair.

Fences.—Glance at his fences. Some of them are the old Virginia rail, but they are not suffered to become tippy; some of them are post and board, and here and there hedges are beginning to appear. He is not yet perfectly satisfied with any hedge-plant for a permanent farm fence. The buckthorn is hardly thorny enough to turn cattle; the hawthorn is liable to several diseases; the thorn-locust is rampant, and needs considerable care, but answers tolerably well. The osage orange is just the thing, if it proves hardy enough for his climate. He is giving it a thorough trial. But whatever kind of fence he may have for any field, he does not suffer it to become dilapidated. Good fences, he knows, have much to do in making good neighbors; he values his own peace of mind too highly—saying nothing about his crops—to leave his fields exposed to the inroads of vicious cattle. Broken rails are, therefore, replaced with new ones, and if a board gets off, it is soon observed and nailed on again.

Mode of Tillage.—Notice his mode of tillage. As a ground-work of the whole, he has drained his low, swampy lands, and not those only, but other parts of his farm which were found to have superabundant moisture at any season of the year. He was systematic even in doing this. It would have cost too much labor and money to have undertaken all at once. So he distributed the work through several years, doing the most important first, and the remainder as time and means permitted. And the work pays as it goes: Thorough plowing and manuring go hand in hand with draining. The skinning system he leaves for others: his plows are of the kind which go down into the soil, not merely scratch the surface. No manures are wasted on his premises; they are never so highly concentrated as to need dilution by exposure to rain and sun and wind. If anything of this sort is needed, he thinks it best to incorporate with them muck or straw, and to lay them up in heaps, under sheds or in barn-cellars. Nor does he confine his work to a single season. The well-prepared field is sown or planted with good seed, and then it is well tilled throughout the Summer. The cultivator and hoe are kept always bright, the soil kept mellow, the crops always growing, and the weeds kept in constant subjection.

Implements, Seeds and Stock.—His selection of these is worthy of notice. He likes not to make farming an unnecessary drudgery. Hence, whenever he can find a machine that will economically save human labor, he buys it at once. He takes pains to inform himself as to the best patterns that he may not be imposed upon by unprincipled vendors. So in the choice of seeds. He is careful to save from his own crops those which mature the earliest, and develop themselves in the best manner. And, lest they should deteriorate somewhat, by being too long grown on the same soil, he exchanges with orderly farmers in other places. If he learns of new varieties which promise well, he does not scout them at once as num-bugs. He goes to reliable sources of information, or he makes careful experiments, and then adopts or rejects the new comer as its merits seem to require. He is not afraid to prove new things, yet is quite sure to hold fast to the old which are known to be good. The same system is shown in his purchases and care of stock. He is not ignorant of the respective merits of imported breeds; but whatever "the blood" of his animals, they are well cared for. They are well

housed, supplied with food and water in abundance, and at regular hours.

Books.—Our last glance will be at his book-case. Here we find, as we expected, his farm accounts, and the footing-up shows the balance on the right side. Here, too, are the best treatises on agriculture, as well as instructive books in various departments of literature. He is a book farmer in the true sense of that term; a man who practices according to well-settled principles, and not simply by rote. Here, also, are one or more of the leading papers of the day devoted to the wants of his occupation, not the least important of which, we should of course say, is the *American Agriculturist*.

For the American Agriculturist.

WANT OF TIME.

LESSONS IN LIFE BY A GLEANER—NUMBER III.

I do not know as there is another source of complaint among farmers so universal, as that of the "want of time." One, for example, believes that education is a good thing, regrets that he never had it, and wishes his boys might have a better chance, but he is crowded for time and can't spare them. There is so much to do, and besides, they must be earning something to start with when they become men. Another acknowledges that his farm arrangements are not just right, as, for instance, there should be a gate where there is now a pair of bars; should be two hinges where there is now but one; should be a ditch where is now a marsh, and should be a cistern where is now a barrel. And so of a multitude of like inconveniences, but he has not the time to fix them yet. And this is the case among all classes. Ask a man if such a plan would not be an improvement, "Yes; I mean to have it so if I ever find time."

Now I claim that many, if not all such persons, have got the cart before the horse, they are ever trying to stretch the time to suit their work, whereas they should plan their work for the time. Jack Bobstay's horse could have gone a mile in three minutes with ease, *only* the distance was too much for the time. It is not for me to name the number of acres a man may undertake to till, and have leisure time to keep his garden, orchard, barns, gates, &c., all in fine condition,—for there are many considerations in deciding the question,—but I do earnestly protest that every farmer should lay his plans so as to *have time* for reading, for study, and for improvement.

Let me illustrate: I know a man who, during the dry season, goes 50 rods after water for his family's use, because his well, not being quite deep enough, dries with every drouth, and he has never had time to build a cistern. He actually carries two to four pails of water twice a day that distance, for weeks at a time, and yet is not mathematician enough (though he has taught school more than a score of Winters,) to know how much more time he has wasted than would have been required to build a reservoir for keeping an un-failing supply of water.

X. L. C. ORR.

The Superintendent of a certain Railroad discharged a conductor belonging to that road. The conductor was asked why he was discharged. "Well!" said he, "I was discharged for giving a free pass." "What made you such a fool as to give a free pass?" "Well! you see!" replied the Conductor, "I got tired riding *alone*!"

Seldom grow the same crop, or crops of the same family on the same spot, without an intervening crop of a different nature.

VEGETABLE CUTTER.

All who have had occasion to feed turnips, beets, potatoes, cabbage stalks, pumpkins, and such like articles, know full well how tedious a job it is, to cut them by hand sufficiently fine to ensure safety in feeding. We have ourselves lost more than one good animal by choking, and we long since stopped feeding turnips which were not cooked soft, or cut one by one with a hand-knife. To say nothing of the danger of feeding imperfectly cut roots, the time required in the old-fashioned mode is an important item. Various implements have been constructed to do the work with greater accuracy. We present herewith an engraving of the best one we have seen. It is constructed essentially as follows: A box or hopper, holding a bushel or more, receives the roots. At the bottom is an opening upon the side. Against this plays a series of knives attached to a flat wheel or cylinder. These knives shave or plane off slices from the roots in the box. The sliced roots are forced through the cylinder, like shavings through a joiner's plane, and short knives are arranged crosswise so as to cut the flat slices into small strips.

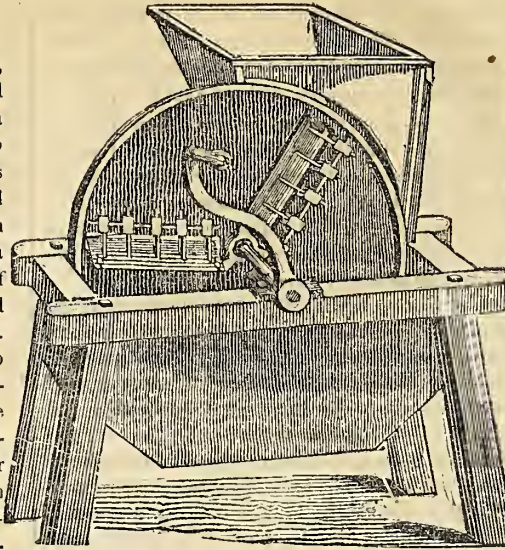
The whole apparatus is simple and works very rapidly. One like that here shown costs about \$10 at retail, and by hard pushing it will cut a bushel of turnips per minute. Thirty to forty bushels per hour are readily cut as finely as could be desired. We believe this implement is not patented. It is for sale at most places where agricultural tools are kept.

IN DEBT FOR HIS FARM.

This is the case with many throughout the length and breadth of the land. Not having all the needful cash on hand to purchase their farms at once, they paid what they could, and gave a mortgage for the remainder. Very well. They now have a powerful motive to industry. Every dollar saved is at least as good as one earned, and every dollar earned is a new step towards independence. From year to year, the incumbrance grows a little lighter, and the prospect of a competence a little brighter. But some tell us that the good time is a long while in coming; they do not make farming as profitable as they could wish: can we help them by any suggestions?

We reply that we know of no royal road to riches through agriculture more than in other pursuits. But we are assured that much can be gained by farming in an intelligent and thorough manner. It will not do to work at random, or by rote, even though one work like a slave. It will not do to work with poor and insufficient implements. It will not do to waste time and strength and manure on wet land, when it ought to be drained. It will not pay off the debt, to let the manure heap waste its virtues in the sun and rain. In short, it will not answer to labor hard and hoard with one hand, while wasting with the other.

But we can not go into details on this subject: it would only be rehearsing the lessons we have so long and so largely taught in our columns heretofore. We can say, however, most truthfully, that one of the best ways to learn how to reduce the farm debt rapidly, will be to read one or more of the leading agricultural journals. They give instructions in economy; they teach how to make the most of a little; they abound in facts, notes of experience and observation; in short, they teach how to farm in the best and most profitable manner. A little money and thinking so invested will yield the most ample returns. In our own expe-



rience, we remember a single hint obtained from an agricultural paper, in regard to putting in a grain crop, which was clearly worth sixty-two dollars the same year. This and similar results on our own farm and on others, more than anything else, led us to our present field of labor. We are confident that no one can take and read even the poorest agricultural paper in the country, without deriving hints and suggestions therefrom, which will in the long run pay him enough to meet the expense of a hundred annual subscriptions.

TREATMENT OF SALT MARSHES.

We are glad to see the increasing interest in this class of lands, indicated by the inquiries of our correspondents. There are, as yet, but few examples of the successful reclaiming of salt marshes in this country, and there has been less said upon this topic, than upon almost any other branch of farm economy. They are really the richest lands we have, and as a class are more valuable than the swamps and inland marshes. In addition to the inexhaustible supplies of muck, common to both, these have unlimited supplies of salt and animal matter left upon them for ages by the overflow of the tides. Instead of being left as they are, marine wastes producing only coarse unpalatable grasses, they ought to be reclaimed from the dominion of the sea, and turned into meadows. Every one who owns one of these marshes, has probably thought of shutting off the sea water, but has over estimated the difficulty of making the embankment, and putting in a tide gate. As we have had a little experience in this business we will detail it for the benefit of our readers. We have now a thick set clover and herd's-grass sod upon land that was, two year's ago, flowed by the tide. The marsh lies inside of a railroad, so that the embankment was already formed and the only work to be done was the ditching, and putting in a tide gate, at the culvert.

THE EMBANKMENT

is a matter of the first importance, and where it is to be exposed to any considerable depth of water at high tide, say two or three feet, it should be made of stone upon the outside, and supported with a bank of marsh sods, or gravel, upon the inside. It is a good plan to have a cart path upon the embankment and to make it solid by travel.

THE CULVERT AND TIDE-GATE

should be made in the most thorough manner, and of the best material, as upon these the whole success of the work depends. The embankment at the sides of the gate should be fortified with plank, driven deep into the mud, and battened so as to compel all the water to pass through the

gate. The gate should be made of stout plank, oak, chestnut or yellow pine, two and a half or three inches thick. The bottom of it should be as low as low water mark, so that the water can run off until the returning tide shuts the gate. The hinges should be made of composition or copper to prevent rust.

DITCHES.

There should be a broad ditch surrounding the marsh to cut off all fresh water springs. The other ditches are only wanted to carry off the rain that falls. They should be frequent and narrow, and cut to the low water mark. The contents of these ditches will more than pay for digging them, to be used in the yards and stables, as an absorbent.

CROPS ADAPTED TO MARSHES.

The only crop we would recommend for the first ten years at least, is grass. The sod is so thick and tough that it will not rot in years, unless lime or stable manure is used in large quantities. Clover, herd's-grass, and red-top may be sowed upon the sod a few months after the tide gate is put in, and they will catch much better than upon upland. There is not salt enough in the sod to injure the seeds after a few heavy rains have fallen. We have sown in March, and in August and September, and have had good success at each sowing, but, on the whole, prefer sowing upon the snow in March, to any other time. The sod is then wet like a sponge, and the melting snows and rains of Spring carry the seed down into the little crevices of the turf, where they soon strike root. We have cut stout herd's-grass this season, from seed sown last Spring.

WEEDS.

These will spring up in great quantity, after the first year, especially if the marsh is at any time flowed with a fresh water stream. Multitudes of seeds that were formerly killed by the salt, now strike root, and multiply with wonderful rapidity. If these are not attended to, they will injure the quality of the hay, as it is impossible to separate them at mowing time. The simplest remedy for these is prevention, by mowing the reclaimed land, at least twice in the season, and thus suffering no weed to go to seed.

DRESSING WITH SOIL.

It will be asked if this process will pay? We have experimented with various soils, such as poor yellow subsoil, surface soil of old pasture, garden soil, and with mud taken from the ditches. The grass is good where there is nothing, but is much better with the subsoil, better still with surface soil and ditch mud, and best with garden soil. Owing to some changes in our premises we had enough of this last to cover nearly two acres with a thin coat, say a half inch in thickness. Here the grass is thickly matted and would turn a good swath on this 14th of November. Where one has available soil near by, we have no doubt that it will pay abundantly to dress an inch thick or more. It may be done before or after sowing the grass seed.

MUSKRATS

are a great hinderance to this improvement. They will bore the banks of the ditches, and gnaw the wood work about the tide-gate. Unless the embankment is made very substantial, they would be likely to perforate that, and hasten its destruction. The tide-gate where the water passes through should be sheathed with the yellow metal which is used for the bottoms of ships. This is proof against the teeth of these animals. In the ditches, they are readily trapped, and one who is skilled in bunting, will soon destroy them. They are taken by putting a net-work bag over the mouth of their holes, which are always just under

water. By jumping on the marsh above, they become alarmed, and rush for the water, where they are speedily bagged. To trap them, stop up the ditch where they pass, except a narrow passage of six inches in width. Put a flat stone about two inches beneath the surface of the water, and upon this set a common steel trap. They are sure to be caught in passing. There are no difficulties in reclaiming these marshes but may be easily surmounted, and when the work is done we are certain that every one will be highly gratified with the results. As these marshes now lie, they are hardly worth twenty dollars an acre. When once swarded with herds-grass they are worth a hundred or more. We think ours will pay the interest on three hundred dollars an acre. On the ten acres where two years ago scarce two tons of poor salt hay were cut, this year ten tons were gathered of excellent quality. Judging from the present appearance of the sod, the quantity will be doubled next year.

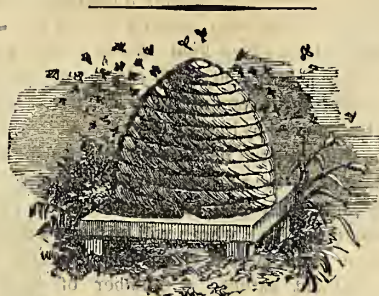
AN EXAMPLE OF UNDER-DRAINING.

It is frequently said, and oftener felt than said, by those farmers who have never tried underdraining, that our articles are too theoretical and the benefits of the operation are greatly over estimated. We can not blame any one for entertaining this opinion until he sees for himself an example of its advantages. We have recently visited the farm of Stephen Hoyt & Sons, of New-Canaan, Ct., where our views of draining are amply illustrated.

They carry on the nursery business in connection with farming, and were first led into underdraining by the loss of a large number of trees by Winter killing. They rightly attributed this loss to a heavy wet soil, and determined to remedy it. They put down underdrains, three or four feet deep, at distances of about forty feet, filling the bottom with cobble stone in the style of fig. 15, page 222 of our October issue. In a single field they have put down over a mile of this kind of drain. They are very careful in packing the surface of the cobbles with very small stones, and covering with straw and sods so as to prevent the sifting of dirt down among the stones. The character of this field has been entirely changed, so that no crop is Winter killed.

They are so well pleased with this kind of underdraining, that they are extending their drains over the whole farm as rapidly as they can. The soil is tenacious, not of the first quality, and much of the sub-soil is full of cobbles, which makes the digging of drains very expensive. But they find it pays an interest of twelve per cent for all the capital they invest in this operation. It costs not far from fifty dollars an acre to clear of the rocks and to drain the wet places. When a field is thus cleared and drained, the value is advanced from forty dollars to two hundred dollars an acre, and it pays the interest on that sum much better than it did on the first cost, without the improvement. We found here all the advantages we have ever claimed for underdraining fully realized. We saw extensive fields of corn, carrots, turnips, parsnips, onions and beets, upon this underdrained land. They find no difficulty in getting good turnips upon these fields, and when this want in American husbandry is supplied, we have little doubt, that our turnip crop will approximate to the place it holds in English husbandry. The finest orchards are upon this drained soil, and trees eight years old are now as large as many that we have seen in orchards planted twenty years ago. We are persuaded, that if any of our sceptical friends will

visit this farm, or any other where thorough draining has been tried, their unbelief will give place to a faith that will work.



WONDERS OF THE BEE-HIVE.

NUMBER VI.

[We have in course of preparation several large, beautiful and instructive engravings for these Chapters, which we reserve to the next number in order to have them all in the same Volume.]

One of the curious sights in a hive is the cluster which the bees make. Their nature is such that they need a high degree of animal heat. A single bee would soon perish from cold, but when thousands cluster together, they can endure the severity of our hardest Winters. But in forming the cluster, they do not lie down close together like a litter of pigs, nor stand side by side like a flock of sheep. Their mode is to hang themselves from the ceiling or roof of the hive, or from the branch of a tree. Some hundreds of them take hold of the underside of the roof with their fore-feet which terminate in sharp claws, and stretch themselves out at full length. Their hind legs hang down so that another set of bees can grasp them with their forefeet, and others still hang to them. But these chains get linked together, each bee perhaps hanging from two, and thus festoons are formed, and the shape of the whole mass is that of a sugar loaf with the small end down. We had occasion once to turn upside down a box containing several hundred bees, and as they gradually accommodated themselves to their new position, we found at the bottom of the chain a bee, which, while clinging to those above him with its fore-feet, held in its hind feet a shingle nail that happened to be loose in the box; and from the nail still another bee hung. The latter dropped off pretty soon, but the first held on to the nail for half an hour before letting it fall. The number of bees in such a cluster is sometimes very large, and the weight is proportionally great, so that the strength of those tiny hooks with which the feet end off, is more than we should suppose.

NUMBER OF BEES IN A SWARM.

The number of bees in an ordinary swarm, may be estimated by the actual weight. It has been found by experiment that a pound of bees contains about five thousand; and if one knows the weight of the hive in which he has put a new swarm, he can easily calculate the number of bees. It is desirable that a swarm should have at least 20,000 bees; sometimes there are three times as many. It is to be noticed, however, that a new swarm on going from the old hive, is heavily loaded with honey, and if no allowance were made for this, the estimate of numbers would be too large.

The *observing hive* allows us to watch each bee as it returns from its flight in search of food. Those that come with a load of pollen on their thighs, first attract our attention. This pollen is the food of the immature bees, and is kept stored away in readiness for consumption when needed. The supply is procured months before it is used. And it is essential to the well-being of a stock, though it is bitter to our taste, and makes the

honey with which it is found unfit for market or for the table. We see a bee coming in, with its well balanced load sticking out on either side like panniers from a donkey. It marches along over the familiar road from the entrance to the comb, and instead of going up to the spare honey boxes, where the choicest stores are kept, it makes its way to the neighborhood of the breeding cells, and looks for an unoccupied spot. Passing by those that contain honey or brood, it selects a proper place, and thrusting its hind legs into the cell, it rubs them one against the other until the entire load is brushed off; and then leaving it to others to pack down the bee-bread, it starts off to make arrangements for delivering its cargo of honey.

The honey is brought to the hive in the *abdomen*, and is usually collected at the same time with the pollen. The bee brushes up the juice of the flowers with its five tongued proboscis, and swallows it. If when gorged with food, it were cut in two, the honey might be found in the sack of the abdomen. Or if the bee were suffered to light on a window, in a strong light, the semi-transparentness of that part of its body would show that it was loaded with honey. A bee desiring to be relieved of its load, gives an invitation to the company to help themselves. This is done in a peculiar manner, if we have not misinterpreted their antics. Holding on to the comb with its forefeet, it shakes itself violently, and repeatedly, crowding away those that hinder its movements. As one comes to accept the offer, the two join their *probosces*, and the honey passes from one to the other. In the same way also they feed the mother-bee; but if the honey be not wanted for immediate use, it is poured into the cells provided for it.

Thus all the honey which we find in the hive is brought in, a few drops at a time, in the stomach, or more properly in the honey-bag of the bee; but

“Many a little makes a mickle,” and we surely ought not to despise the results. It is not likely that any change is effected in the honey after it is collected from the flower, except that it becomes thicker by evaporation. Buckwheat honey is one thing in flavor, color and smell, and white clover honey is quite another thing. And as for the feeding mixtures which some people administer to their bees, we will only say they get no better than they give. If they give molasses they get molasses in the comb; and if they give West India honey, they will not get the apple blossom honey in return.

During the days when the honey harvest is abundant, the hives increase rapidly in weight, and sometimes all the profit of the entire year is made in the course of two or three weeks. Indeed the work accomplished in a few favorable days is almost incredible.

HOW MUCH HONEY DOES A SWARM MAKE.

We have before us in the *Bienen Zeitung*, for 1856, an accurate and extended statement of daily observations made in Germany three years ago. A man took the trouble to weigh one of his hives twice a day, before the bees left it in the morning and after their return at night, and thus he determined the daily increase of weight, and the loss at night by consumption and evaporation. The observations were continued from the 5th of May to the 2nd of August, a period of 91 days. Some general idea of the whole may be formed from the following items which will repay the reader.

The hive, bees, comb, honey, brood, &c., weighed on the 5th of May 64 pounds; and after losing two swarms, of seven and five pounds respectively, its weight on the 2nd of August was 120½ pounds. This does not show all that the bees accomplished for the gathering of honey ceased almost entirely on the 27th of June, (five days before the departure of the second swarm,) at which time the en-

tire weight was 143 pound, showing an increase of 79 pounds in 54 days. The work of each day is minutely recorded. Beginning with the 5th day, the daily gain in weight during the month of Max was as follows:

5— 3/4 lb. gain.	14— 9 1/2 lbs. gain.	23— 3 1/2 lbs. gain.
6— 3/4 lb. gain.	15— 3/4 lb. gain.	24— 2 1/2 lbs. gain.
7— 1 1/2 lbs. gain.	16— 3/4 lb. gain.	25— 3/4 lb. loss.
8— 2 1/2 lbs. gain.	17— 1 lb. gain.	26— 1 lb. gain.
9— 2 lbs. gain.	18— 18 1/2 lbs. gain!	27— 1/2 lb. gain.
10— 2 1/2 lbs. gain.	19— 3/4 lb. loss.	28— none.
11— 4 1/4 lbs. gain.	20— 2 lbs. gain.	29— none.
12— none.	21— 5 1/2 lbs. gain.	30— 1/2 lb. gain.
13— 3/4 lb. gain.	22— 4 3/4 lbs. gain.	31— none.

The loss during night, by consumption and evaporation, varied from nothing to 1 1/4 lbs., and amounted, during the month, to 10 1/4 lbs.

In JUNE the record stands thus:

1— 1 1/2 lbs. gain.	11— 1 1/2 lbs. gain.	21— 2 1/4 lbs. gain.
2— 3/4 lb. gain.	12— 8 lbs. gain.	22— 4 lbs. gain.
3— none.	13— 3 1/2 lbs. gain.	23— 1 1/2 lbs. gain.
4— none.	14— 5 1/2 lbs. gain.	24— 3/4 lb. gain.
5— 3/4 lb. loss.	15— 1 1/2 lbs. gain.	25— 1 1/2 lbs. gain.
6— 1 1/2 lbs. gain.	16— 7 1/2 lbs. gain.	26— 4 1/2 lbs. gain.
7— none.	17— 4 1/2 lbs. gain.	27— 1 1/2 lbs. gain.
8— 1/2 lb. gain.	18— 3 1/2 lbs. loss.*	28— 3/4 lb. loss.
9— 2 lbs. gain.	19— 6 1/2 lbs. gain.	29— 1/2 lb. loss.
10— 3/4 lb. gain.	20— 5 1/2 lbs. gain.	30— 1/2 lb. loss.

* On the 18th the first swarm, weighing 7 lbs., left, yet there was a loss of only 3 1/2 lbs., showing that 3 1/2 lbs. of honey was brought in on the day of swarming.

From the 28th of June, to the 21st of July, no day showed an increase of weight except the 11th and 17th, when 1/2 and 1/4 of a pound were brought in; and the remainder of the term added only 3 pounds.

In May the *Rape* was in bloom, and the trees, especially of the forest; and the 18th, the day of such a large increase, is described as a *sultry* day, the *Rape* being in full bloom. It is remarkable that the following day, nothing was collected. From the middle of June the *Esparcet* was said to be in full flower.

We see no reason to distrust the accuracy of this record, and we should like to have similar observations made in this country. The results are affected by many matters easily overlooked. The increase of weight, for example, is not from the accumulation of honey alone, but from the bee-bread, and from the growth of the brood; and yet the latter item would be gradually operating, and would not explain the large increase of the most prosperous days. The accumulation of honey must be influenced also by the distance of the pasture ground from the hive, and the time required for the journey. And of course the consumption at night must be far greater in a hive where *new comb* is to be made, than in one where there is a full supply of empty cells. This table also shows that if the owner had desired to destroy his bees by sulphur, he would have gained by taking up the swarm on the 28th of June, without waiting for it to consume the honey after the supplies failed in the fields.

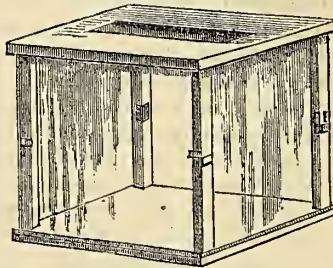
And while speaking of the consumption of honey, we may as well cite other facts. We have said above that the stock spoken of lost 22 1/2 pounds, (including an after swarm of five pounds) between June 27th and August 2. In the next two weeks of August, it lost in weight 2 1/2 pounds.

In Key's Treatise we find other experiments. A stock that weighed on the 2nd of Nov. 29 pounds 3 ounces, had lost, Feb. 26th, (115 days after) 5 pounds 2 ounces, or about 1/3 of an ounce daily. This is at the rate of a pound in three weeks during the Winter, when there is less activity and less of consumption than in warmer seasons of the year. Much, however, depends on the number of the bees and their protection from the cold. The consumption during the Winter and Spring may be so small as to leave too little room for brood, and to make it desirable to rob the hives in the Spring. This is one of the things where great judgment is demanded of the bee-keeper.

GLASS HONEY BOXES.

"Patent Bee-Hives are all a humbug," writes a new subscriber, who goes on to say that "he has tried about every kind offered to the public during the past twenty odd years, and he finds the 'latest improvement' no better than the first patent hive used by him in 1834."

We will not stop here to discuss the peculiar advantages of the various patent hives and beehouses, but refer him to pages 6 and 7 of this volume, (Jan. No.), where will be found a description of a plain, simple, cheap and effective beehive, without patent. A number of inquirers wish more particular directions for making the glass cases to go upon the top of the box-hive, for holding the honey. We this Fall bought a box of Quimby's honey, sent to the Washington Market in this City, and removing the honey, have made the following drawing of the box:



This is 5 inches wide, 6 inches long, and 5 1/2 inches high, including the top and bottom pieces. The top and bottom are made of thin, 1/4 inch boards. At the four corners are upright pieces, say one-half to three-fourths of an inch square. Nails driven through the boards into each end of these corner pieces hold the frame-work together.

The four sides are of common window-glass, cut into the required size, which can be done without any waste. Formerly the glass was slipped down in small saw grooves made in the corner pieces. This was done before nailing on the cover. In the boxes sent here this year, we notice a different arrangement, which is perhaps an improvement. Instead of putting the glass into grooves it is simply placed against the outside of the corner pieces, and held there by bits of tin as shown in the engraving. These are made by cutting out pieces of tin, say 1 1/2 inches long and 3/4 inch wide. They are then slit with shears endwise, about half way through. The slit end is then thrust from the inside to the outside corner of the upright piece, so as to come out between the two edges of glass meeting at the outer corner of the box. One portion of the slit end is then turned to the right, and the other to the left, thus holding both pieces of glass. Made in this way the glass boxes are not so strong as in the other, but there is this advantage, that by simply bending out the tin, a side of the box can be removed without disturbing the covers or the honey within.

The box in our cut is placed upside down, to show the hole in the bottom piece for the entrance of the bees. As formerly described, these boxes are set over holes in the top of a hive, and covered over with a box-cap to shut out light, storms, &c. A pane of glass 10x12 inches will furnish the four sides, and the whole cost of the boxes will not exceed four to six cents each.

WHO EXHIBITED?—At the recent fair of the American Institute at the Crystal Palace, there were 1540 entries of articles exhibited. Of these New-York State contributed 1388, of which N. Y. City, furnished 1133. Massachusetts, contributed 88 articles, a greater number than any other state

beside New-York. Connecticut is next, and contributed 49 articles. New-Jersey is the next highest, and contributed 48. Pennsylvania next, had 29. Ohio had 5, Rhode-Island 5, Vermont also 5, Illinois 3, Missouri 3, Iowa 2, New-Hampshire 2, Maine 2, Maryland 2, Virginia 2; the District of Columbia, North and South Carolina, Georgia, Indiana, Wisconsin, Delaware and Alabama, one each.

TIM BUNKER ON FARM ROADS.

MR. EDITOR: I couldn't help thinking when I was off on my journey, riding on the rails, what an awful waste of horse and ox power there was on our farms. On a railway they get rid of all the obstacles, make the path solid, and have the running gear as perfect as possible. The power has very little friction to overcome, and is all spent in drawing the load. On a plank road, they do a good deal to remove obstacles, and make a solid road bed, but plank-roads and railroads on our farms are out of the question for doing ordinary farm work. The next best thing is the common high-way, in which there is some attention paid to the removal of rocks, to drainage, and to the making of a smooth firm road-bed. This kind of road is within the reach of all our farmers, and I think will pay a great deal better than the miserable cart paths that most of us are contented with. A farmer is just as well able to build what roads he needs to haul his wood, muck, manure, and crops, as a town is to build what roads they want for the mill, the market, the meeting, and the common convenience. Roads leading to the fields, and to the wood lot, that are a good deal used, ought to be worked every year as much as a common highway.

Only to think of the waste of time, of ox flesh, and of cart-tire, in hauling loads over such a road as uncle Jotham Sparrowgrass has upon his place! It leads down to what he calls his Lower Place, about a half mile from his house. Though it has been used for fifty years or more, he has never spent a day's work in mending it. There are rocks in the rut a foot high or more, and holes where the wheel goes in up to the hub, in all wet weather. I suppose his team has been driven over this road two hundred times in a year at least, with an average load of not more than three-fourths of what they would have drawn upon a good graveled path. In other words, if the cost of carting a load over this road is fifty cents, he has paid fifty dollars a year for the privilege of a rough road, to say nothing of the worrying of the teams, and the breaking down of the carts, and the swearing at the mud-holes. If any of the Hookertown people think that the swearing reflects at all upon uncle Jotham, they can suppose that the hired man drives the team sometimes, though I don't say who drives. You see, when the teamster finds himself with a load of green hickory stuck fast in three feet of mud, it is rather a trying position for the temper.

A few days' labor spent in digging stones, and hauling gravel, would make this road equal to a turnpike, and then it would not cost five dollars a year to keep it in repair. The teams would draw a full load instead of three-fourths, and the labor saved here could be devoted to other profitable work upon the farm. Now there are thousands of miles of just such miserable roads upon our farms, that ought to receive immediate attention. If there is any economy in having a good strong team, there is still more in having a good smooth road to work on.

Yours to command,

TIMOTHY BUNKER, Esq.

Hookertown, Ct., Nov. 13, 1857.

DWARF PEARS WINTER-KILLED.

A neighbor of ours once complained that he had repeatedly lost several first-rate pear-trees and was beginning to lose his faith in pear culture. He gave them the very best care, manuring, pruning, pinching and all that, just as the books directed, and yet, after lingering a few years, many of his trees gave up the ghost. We went, one day, to look at his trees and to sympathize with him. About two rods from his rows of pears and on a rise of ground was a large manure heap. Every Winter, he said, his garden was thrown up into ridges leading down in rows from the dung-hill to the trees. "There," said we, "probably there in that pile of manure, is the enemy of your trees. The liquid manure runs down in those open drains all the year; but especially in Winter, and gives your trees too much of a good thing." "I guess you are right," said he, opening his eyes, "Strange, I never thought of that before." As we have heard no further complaints from him, we conclude that he has removed his manure heap, and that his trees are succeeding better.

TENDER SHRUBS—WINTER PROTECTION.

Many of the half hardy shrubs, both evergreen and deciduous, (leaf shedding), and not a few of the foreign trees now undergoing acclimation, or *naturalization*, require a partial winter protection while young. Most of these grow more hardy as they increase in size and age. Various coverings are recommended to shield them, such as boxes, barrels, mats, straw, burying with earth, &c. Barrels and boxes answer a pretty good purpose, when inverted over low-growing plants, provided there are sufficient holes in the top or sides for ventilation. One of these placed over a hydrangea in our grounds during the past winter protected it sufficiently from the weather, but—smothered it, so that the branches decayed in the Spring.

A good coating of straw is, upon the whole, the best protection, affording sufficient air to the tree or shrub, and turning off all water from the branches. If the plant or tree has straggling branches, they should be first drawn in and fastened with bands of straw or willow twigs, after which place stakes or poles around them in number and length according to the size and height of the specimen to be inclosed. These stakes should extend from the ground, and be tied to a point a little above the plant. Weave in a few willow twigs at points up and down the stakes to prevent the straw from pressing too closely upon the branches of the shrub. Begin at the bottom by standing long rye-straw, say one-half to three-fourths of an inch in thickness, is sufficient around the bottom, passing twine around the upper part to keep it in place. Place another circle above this, the lower end breaking joints or extending a little below the upper part of the first covering. Proceed in this way till the top is reached. A single length of straw will often be sufficient. Double the top of this covering over, and tie it firmly as a cap to shed off rain. Twine should be wound around the whole at distances of ten inches or one foot to prevent heavy winds from blowing the straw about. Of course this covering is to be removed upon the approach of settled weather in the Spring.

A cone of this kind neatly constructed along the borders or paths of the flower garden is far from being an unsightly object, and the protection to the plant is of the best kind. Evergreen boughs are sometimes placed about shrubs instead of the straw, and answer as a tolerable substitute.



Fig. 1. represents a Pear branch attacked by the Bark-Louse. The insect being concealed under the white scæla. Fig. 2 represents the under side of one of the scales, with the eggs adhering, greatly magnified. Fig. 3 is a magnified view of the female bark-louse before depositing her eggs.

THE BARK-LOUSE OF THE PEAR TREE.

BY A. O. MOORE, NEW-YORK.

If in the month of October the vigilant cultivator scrutinizes his young pear trees, he may be surprised by finding here and there an individual tree strangely covered on trunk and limbs with a white substance, which at first may seem to be a mould or mildew, such as would be engendered by a damp situation. Upon attempting to scrape this off, a claret colored liquid will smear the stem as if with blood. A close examination will show that this white substance is composed of small paper like scales. See the accompanying cut *fig. 1*. If a scale is removed carefully so as to expose the under surface, it will at this season be found to cover a minute dark red object, surrounded by yet smaller dust-like atoms. This is as far in our investigation as the unaided vision will carry us. That indispensable pocket companion a good microscopic lens will, however, reveal a family composed of a mother as seen at *fig. 3*, with her numerous unhatched progeny consisting of from twenty to fifty eggs, (*fig. 2*.) the breaking of which latter furnished the red fluid before noticed.

The parent insect seems at this period to have lost all signs of activity, but a steady hand will enable us to see even as late as the month of November, slight contortive movements of the body. I have not, however, been able to discover any means of locomotion, either legs or wings. A bristle like thread proceeding from the anterior extremity, serves to attach the insect to the tree, by which it often remains suspended even when the scale covering is removed. Some authors give us a description of two kinds of scale, one covering the male, and the other the female. Previous to the first of October, I have found the insect under the scale without the eggs, but by arranging the light so as to produce a slightly transparent effect, the eggs may then be seen within the body of the parent, as at *fig. 3*.

At this time the insect appears almost lifeless, and probably it has already committed all the injury to the tree it is capable of inflicting: this injury consists, as we are informed, in the abstraction of the juices of the tree by the insertion of

the insect's beak, and the accompanying wound. Around each minute paper domicil may be seen a discolored spot showing the nature of the injury. It is not unusual to see a tree of eight or ten feet in height with every part of the stem and many of its branches whitened by this injurious insect. No tree thus attacked can be healthy. Its bark becomes rough and cracked, the young growth stunted and gnarled; the tree is frequently thrown into premature bearing while the fruit will be small, woody and flavorless; until finally the tree falls a prey to blight or an August sun deprives it of the miserable remnant of life.

Trees situated in grass lands or otherwise neglected, peculiarly invite this *sloven's pest*. Slow growing varieties of the pear are more subject to it than the rapid growing kinds. Upon my own grounds among six hundred pear trees, the Seckle only is attacked, not one of that variety having entirely escaped. Young trees are more frequently infested than those of over ten year's growth. Some writers assert that the apple is also affected by the same insect, but no such case has yet fallen under my observation. Any reader who finds upon his apple trees a Bark-Louse resembling the subject of this memoir will confer a favor by forwarding some of the affected branches to the editor of the *Agriculturist*, or to the writer at 140 Fulton-st.

It may be interesting to know that this insect is related to the Cochineal of Mexico, which forms an important article of commerce, and produces that beautiful scarlet dye so useful in manufactures.

We will now consider the means of destroying this troublesome insect. It is probable that the time in which the injury is committed, is during the Summer months, although the insect being not then invested with its paper-like covering can only be discovered with difficulty. The practice of washing the trunk and main branches of fruit trees with a mixture of soft soap and water, one part of the former to two of the latter, applied with a coarse cloth, using considerable friction at the junction of the branches with the stem, can not be too highly recommended for the health and general thriftiness of the orchard. This application should be made in the Spring, before the swelling

of the buds, and again early in June, this time, however, greater care is necessary to avoid injury to the young shoots. The young insect is then about commencing its Summer depredations, and all that escaped the Spring washing may be easily destroyed. Trees thus treated will not be troubled with the Bark Louse, the following Summer, and if the application is extended to the extremities of young shoots likely to be affected by the aphid, it will be found to be a preventive for the attacks of that insect also.

Where soft soap can not be obtained, common hard soap may be used instead; half a pound dissolved in two gallons of hot water. Harris recommends a solution of two pounds of potash in seven quarts of water, or a pickle consisting of a quart of common salt in two gallons of water. No preparation, however, I believe to be so safe and efficacious as the one first mentioned.

A piece of whale-oil soap, or even of common hard soap, mashed in the "crotch" of the principal branches, and allowed to remain until washed down gradually by the rains—and when exhausted, renewing the piece after washing the place thoroughly—will be found excellent for the general health of the tree, and prevent the attacks of this and many other insects.

GRAPE CULTURE—NO. XII.

BY WILLIAM CHORLTON.

In closing our directions for the year a few general remarks may not be out of place. Grape culture, in this country, is yet in its infancy, notwithstanding the thousands of acres already devoted to it, and I would modestly predict that in a very few years it will prove to be an important item, and that ere long we shall be exporters of wine, and thus assist our embarrassed financiers out of part of their difficulties. I have argued the importance of this matter for many years, and that our native kinds were certain to improve until they would become equal to the exotics for all purposes. How far have we progressed up to the present time? The Rebecca, a beautiful amber colored variety, that was sent out last year, is as fine flavored as a Frontignan, and if rightly manufactured, it is quite probable that as good wine will be made from the former, as the latter is famed for yielding. Diana and Delaware are but little inferior, ripening even earlier. Concord, and Hartford Prolific are hardier, and arrive at maturity earlier than the Isabella; consequently we have already the sorts to improve still farther upon and extend the area of vine growing into more northern climates. It is now high time for our Southern friends to stir themselves. They have the Scuppernongs to experiment with. At present, even the best of this class, is little more than in a wild state; whilst with care, and patience in raising seedlings from the finest fruit, a decided improvement will soon follow.

On the western slope of the Rocky Mountains, and in California, the true European grape is indigenous, flourishing well in that more temperate climate. Here is a most encouraging opportunity, and with skill in hybridizing, the result in a few generations may be equal to any yet known, to say the least.

Excepting in the most Northern, or North-western parts of the country, the pruning of the hardy kinds of out-door grapes may be proceeded with. It ought not, however, to be done during severe frost. Where the land will still admit of being worked, the upper soil should be loosened with the fork some four or five inches deep over the whole surface, after which a mulching of decayed leaves, vegetable refuse, or barn-yard manure, will more than repay the cost. On a large scale this might seem tedious, but it does not alter the case; for if

good attention, and the best culture will pay on a small scale, they will be found equally remunerative in extensive culture. Depend upon it, one of the main secrets of making grape culture pay, in all the varied departments, is in enabling each vine to do its best. Never attempt more than you have capital, convenience and energy to carry out.

If the vines in the Cold Grapery have not been pruned, do it at once, after which, clean and wash with the mixture recommended in February. After this operation, prepare for covering, by bringing the vines down to a horizontal position along the line of planting. Tie the cane loosely to the nearest wire, about two or three feet from the ground level, so that when the head is brought down, this lower portion will remain in a nearly perpendicular position. Next draw the upper portion down to a level, and tie it to the wires or stakes in a horizontal position. Lay the next in like manner along side the first, and so on, until near the other end of the house, where some three or four canes will have to be reversed. They are now ready for the covering. This for young plants need be only a three inch coating of straw tied around with twine, but for older vines, that have got spurs on, it is more convenient to use long boxes made deep enough, and nailed together without a top. These inverted over the rows make a neat covering. The most effectual method, however, is to fix boards along the front of the vines, and close to them. Fill in the space thus formed along the front of the house, with dry tree leaves. The vines are thus enveloped in a good non-conducting material that will maintain a low yet even temperature through the winter. It is difficult to convince some persons that these exotics require such effectual protection, but the extreme cold of the last two winters has in part convinced them of its necessity. Throughout the winter let the house be kept cool, by opening the ventilators every clear day, and close up at night, or at all times when the weather is cloudy, and during severe frosts.

Young vines propagated and grown in pots the present year may be plunged to the rims in a box frame. Fill in over the heads with leaves or straw, and place shutters or glass sashes on the top. They may also be preserved inside a Cold Grapery, or shed. The hardy kinds, too, that have not ripened well, and are intended for replanting next Spring, will be benefitted by lifting and heeling in close together in a trench, covering the tops with earth, or a thick layer of evergreen boughs. Straw out of doors becomes saturated with the winter's rains, and is worse than useless.

In the Retarding House, where the grapes are only ripe, maintain a dry but cool atmosphere, and keep out frost by slow fires. Let the thermometer range from 45° to 50° at night, and 52° to 60° with sunshine.

GRAPES AS HOUSE PLANTS.

Somebody has recommended to cultivate dwarf grape-vines as parlor window plants; and the suggestion strikes us favorably. There are certain utilitarians who can not consent to grow anything which does not furnish food for the stomach, or money for the pocket; as for "cluttering up" their rooms with geraniums, roses and lilies, that is all folly! Now, let such persons try a grape vine at their south window. Plant in a large pot or neatly painted box, and train the vines on wires stretched across the window-frame. We can conceive that such a plant would satisfy the sense of beauty and utility at the same time, and that in a high degree. It would be the finest ornament of the house; and as for the fruit, why certainly *that* would be appreciated.

Neither believe rashly, nor reject obstinately

IMPROVING OLD ORCHARDS.

Desirable as pears, cherries and plums are, we can hardly count on very large and constant supplies of such fruit. Our climate, or soil, is so unfavorable to their growth, or they are infested with so many insects and diseases, and require so much care, that few farmers can devote sufficient attention to their culture. The apple must be our main dependence; and it is no mean dependence either. Yet, strange to say, many orchards are treated with neglect. The trunks and limbs of trees are suffered to become mossy, the tops are allowed to grow up a dense mass of brush, and the fruit to remain of an inferior quality.

Now, there are few men who can really afford to keep such orchards. Why not break up the ground, and if it is not thought best to let it lie fallow, then give it a coat of manure and raise some kind of hoed crop upon it. If possible, mulch the roots of each tree with old straw or chips. Once a year, at least, scrub the trunks with weak lye, or potash water, to remove the moss and rout the insects which harbor there. Then, as to pruning, there is enough to do, but it must be done in the right way. It will not answer to mount the trees with rough nailed boots, and, ax in hand, hack away like a woodsman felling a forest. Tread on the limbs carefully, so as not to start the bark. Use a fine-toothed pruning saw; thin out the branches so as to leave an open symmetrical head, and where large branches must be taken off, cover the wounds with grafting-wax, or a solution of gum-shellac. If the fruit is of inferior quality, graft in choicer sorts, beginning at the top, and grafting only one-third of the tree each year. It costs no more to raise good kinds of fruit than poor; the satisfaction and the income are ten-fold greater.

DAHLIAS FROM SEED.

Miss M. C. P., of Freeport, Ill., inquires how to propagate Dahlias from seed, and how long before they will bloom. The seed can be sown in the Spring, and small tubers will be produced the first year. These taken up in the Fall and replanted in Spring, will sometimes, though rarely, produce feeble flowers the next year. If taken up the second Autumn and again replanted in Spring, a better bloom will be produced, but three or four years is required to bring them to maturity. They are in this respect like the potato. But this plant has been materially changed by propagation—its stamens having become almost entirely changed to petals, and perfect seed is seldom produced. On this account, propagation from seed is now rarely attempted.

Again, when sown, inferior varieties are usually more numerous than good, as it sports into kinds widely different from the parent. Better leave this to amateur cultivators, who have already produced almost everything desirable in a dahlia, save a few colors which they are still striving for. Procure the roots, or potted plants, in the Spring, from seed stores or nurserymen, and you can increase the stock rapidly by separating and planting the numerous roots produced annually.

The grand error of life is, we look too far; we scale the heavens—we dig down to the centre of the earth for systems—and we forget ourselves. Truth lies before us; it is in the highway path, and the plowman treads on it with clouted shoes.

One often regrets saying too much, but seldom of saying too little.

Next to my friends, I love my enemies, for from them I first hear my faults.

THE OSIER, OR BASKET
WILLOW.

As stated in a former volume, there is some doubt whether the growth of willows on a large scale can be made profitable in this country, as the lower price of labor, particularly, and longer experience, &c., enable Europeans to furnish them to us cheaper than we can produce them. Two or three individuals, having an ax to grind, but recently took pains to get up an excitement on this topic, and they succeeded in leading astray a large portion of the agricultural press. The amount of willows imported into the country was stated more than ten times too high, as we took occasion to show from the Government Custom House records. But there is no reason why willow culture should not in a few years become profitable here, and it is well to carry on some preliminary experiments. We therefore present a few hints on this topic.

The books tell us that willows have been raised for domestic use, from a remote antiquity. "The willow," says Pliny, "furnishes long props for supporting vines; and the bark may be employed for tying up the shoots; and the young shoots are much used for basket-making, and for fodder for horses, cows, oxen and sheep." In his day, they were used also for making shields. Cato ranked the willow-field next in value to the vineyard and the garden. The Germans, French and English have long grown them for making baskets, hoops, ropes, chairs, hurdles, children's carriages, cradles and toys, hampers, ladies' work-baskets, and crates. They have also been used as fodder for cattle, the young shoots being cut while green, then dried and stacked like hay. The French insist that horses fed on this food, will travel longer and better than with any other kind of nourishment. In Northern countries, such as Sweden, Norway and Lapland, the inner bark is cured and ground to mix with oatmeal, in time of scarcity. The outer bark and leaves of some varieties have astringent properties, and may be used in tanning, also in dyeing black. From one variety, (*Salix helix*), a medicinal substance has been extracted, which, for many purposes, is as useful as Peruvian bark. One writer sees in this "a wise provision of Providence in placing remedies for agues exactly in those moist, marshy situations where these diseases are most prevalent."

We are surprised to learn that the variety of willows is so great. In the year 1650, only ten species were known in England. In 1737, nineteen sorts are mentioned. In 1819, we read of 141. Several years later, the botanists had enrolled 254! About 30 species are indigenous in England; in this country, we know not how many.

In England, they are generally grown for market on low, alluvial "finny" lands. Often, the small islands in their rivers are devoted to this use, and are called "osier holts." The traveller will notice several large plantations, in sailing up the Thames. In some establishments, a hundred men are employed in their culture, and a large number beside in manufacturing them into baskets and other useful articles.

Unfortunately, the best varieties grown in England and on the continent do not succeed well in our dry climate; and this may account for the comparatively little attention that has hitherto been given to willow-culture in this country. Recently, however, several skillful and energetic horticulturists, (in particular Mr. Charles Downing and Dr. Grant, of Newburg,) have been experimenting with other varieties, and have found three or four sorts which promise all that could

be desired. These are, the *Forbes' Willow*, the *Long-leaved, triandrous Willow*, the *Purple Willow*, and the *Beveridge*. Of the old varieties, the *Salix viminalis*, is the best, and succeeds partially here.

As a general rule, the best soil for osiers is one that is deep, rich and moist, but not subject to standing water. If planted near slow running streams, look out for musk-rats, or your beautiful rods will be cut for you before the time. Fertile bottom lands that are overflowed once or twice a year, are excellent. Even uplands, if heavy and retentive of moisture, will answer a good purpose, if they are worked deep. Large portions of the low prairie lands of the West would make good osier-fields, provided they were first surrounded by a belt of willow trees to shelter them from the winds. Land which is not annually overflowed should be manured before the plantation is made, and then again in the course of four or five years. For the first year, especially, it should be tilled as neatly as a corn-field: it will then thrive well and make profitable returns.

Plants are obtained from cuttings, and of these, from 10,000, to 15,000, are required for an acre, according to the end to be accomplished. On this point, we can not do better than to give Mr. Downing's directions: "For large plantations, the best number is probably 12 to 15,000, and not much crop looked for until the end of the third season, when one of great value may be had. In such cases, 12,000, would be the proper number. A crop of considerable value may be had the second season; and for this purpose, perhaps 15,000 would be chosen. These should be set in rows about three feet apart, and about ten inches distant in the rows." Cuttings may vary from eight to twelve inches long; they should be cut in the Fall or the first part of Winter, and set out early in the Spring. If set in the Fall, they are apt to be thrown out by the frost and killed. The ground, however, should be prepared for their reception the Autumn before, as the soil suitable for them would be too wet to work early in Spring. The cuttings should be inserted in the ground so as to leave the top bud just level with the surface.

There is a right and a wrong way to gather the rods for market. The *wrong* way is to hack them off indiscriminately, at any distance from the surface of the ground, leaving stumps like fig. 1. The

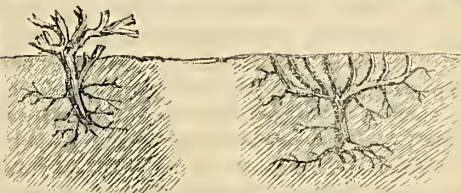


Fig. 1.

Fig. 2.

right way is to cut them off neatly, even with the surface, as in fig. 2. According to this latter method, the shoots are more uniform in size and more vigorous, the whole plant grows more erect, and the roots are healthier. This mode of cutting must be steadfastly adhered to from year to year.

AVENUES OF SHADE TREES.

After what we have so often written on the subject of shade trees, no one will question our regard for them, or our desire to see them planted widely in every part of our fair land. But there is a limit to everything; even a good thing may be overdone. For example: We lately traveled along a road where rows of shade trees were planted on each side for a distance of three or four miles. When we first entered the avenue, we were struck with admiration. What taste, what public spirit are here! But, after the first

mile, shall we confess it! the scene began to pall. We hardly knew how to account for it, but at length we explained it in this way: The trees are all of sugar maple, uniform in size and shape, set at precisely the same distance apart, and quite near together and branching quite low. The dense shade kept the roads muddy and the air chilly. The thick branches shut out the view of the neighboring fields and hills; and the uniform size, form and color of the trees, made the scene so monotonous that we were right glad when we reached the end of the avenue and looked again upon the bright, open landscape.

From this experience we drew the lesson that shade-trees should not be planted in very long rows, or, if so planted, they should not be set too near each other, nor be of the same kind of tree, and that they should be trimmed up so as to give the traveler a view beneath the lower branches of the surrounding scenery. This would give the artificial plantation something of the freedom and variety of nature, which never tires.

EARLY SUGAR-CANE—STOW-
ELL'S CORN.

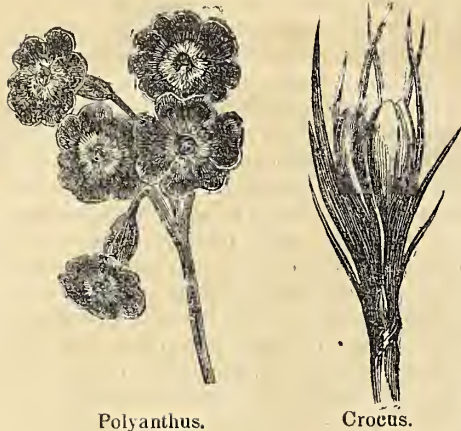
Jer. G. Heater, of Clarion County, Penn., writes: I find the Chinese Sugar-Cane the most valuable crop I ever raised, and shall plant at least two acres next Spring. As an experiment, I tried 200 stalks at one time, and though at least one-third was left in the stalks and wasted, I obtained four gallons of good molasses.... One stalk of my plot ripened nearly four weeks earlier than the rest. Was there any difference in the seed? If so, this early kind is too valuable to be estimated in money.... I planted 25 kernels of the Sweet Corn received from you, and gathered 75 large ears.... Your *Agriculturist* has paid me ten-fold its cost, and my brother says what little he has read has been worth thirty dollars ...

REMARKS.—We know of but one kind of Chinese Sugar-Cane. The African Imphee is said to ripen earlier than the Chinese, though it has not done so with us. The African has a light brown seed instead of a dark black one like the Chinese variety. Mr. H. can examine his early stalk to find whether the seed indicates a different variety. The probability is that this one stalk was hastened forward by some chance advantage of location, or manure, or both. This often happens with a corn crop. We advise to save the seed of this early stalk carefully, and plant it by itself. Any crop may be improved by continually selecting and propagating the earliest ripened seed.

NEW ROCHELLE BLACKBERRY
IN WINTER.

We are informed that some persons who have planted this excellent berry north of Albany, are beginning to fear that it will not prove sufficiently hardy for their climate; it Winter-kills, they say, down to the snow line. To such persons we suggest that they go through their rows of plants this month, bend down the branches of each hill gently to the ground, and lay a stick of wood on them; or pin them down with stakes. This will keep them under the snow and save them from harm, as we happen to know from the testimony of some of our Northern friends. This noble fruit is worthy of a little trouble to carry it safely through our almost Arctic Winters.

Society, like silk, must be viewed in all its situations, or its colors will deceive us.



Polyanthus.

Crocus.

FLOWERING BULBS.

On page 230 of the October *Agriculturist* we gave a description of most of those flowering bulbs requiring Autumn planting. October and November were the appropriate months for setting them, but if omitted they may still be planted in localities where the ground is not frozen. We now introduce cuts showing the bloom of some of them, referring the reader to the descriptions already given. Our first cut represents a truss of the *Polyanthus*, which is a fibrous, rather than a bulbous rooted plant, and is of the primrose family. It is of Alpine origin, not succeeding very well in our hot climate, except in a partial shade on moderately moist ground. The flowers are in clusters of from five to ten each, on foot-stalks six to twelve inches in height, and vary in color. Those with brown petals, a yellow eye and a delicate edging of gold are the more common shades. They form a very rich, though dwarfish bloom, in the latter part of April and first of May. Dividing the roots soon after flowering is the usual method of propagation.

The second is the *Crocus*, in appearance like a flower bud scarcely expanded. It never opens very fully, but with its lowly head of 'modest mien,' though of varied color, it wins the eye, and is usually a favorite. Clumps of different colors interspersed form an attractive sight. It is the earliest flower of Spring except the Snow-drop.



Daffodil.

Tulip.

The early flowered *Daffodil*, called also *Narcissus* and *Jonquil*, is in color white or pale yellow, and often quite fragrant. The profuse flowers and dense deep green foliage render it conspicuous and attractive.

The fourth will at once be recognized as the *Tulip*. Could the brilliant hues and delicate pencillings of its petals be here represented, as in colored prints, the effect would be much heightened. Some of these flowers are almost the height of perfection in richness of color.

THE SENNA PLANT.

As matters of interest we propose to occasionally introduce illustrations of plants, which, though not familiar to the general reader, are yet well known by their products. There are several of these, from which we select for this number a species of the Senna plant, which belongs to the genus *Cassia*. There are three species of Senna, of which the leaves are brought to this country in large quantities: 1. *Cassia acutifolia*, which grows wild in great abundance in Upper Egypt, Nubia, and Sennar, and is known as Alexandrian Senna. 2. *Cassia obovata*, which grows wild in Syria, Egypt and Senegambia, and has been cultivated in Italy, Spain, and the West Indies. 3. *Cassia elongata*, which grows wild in the southern parts of Arabia, and, it is said, in the interior of India, (Hindustan). The species are somewhat similar in appearance, and the dried leaves are all used for a similar purpose, that is as a cathartic medicine. Our engraving represents the last



named, or *Cassia elongata*. It is a low shrub, usually but a few feet in height. The dried leaves are well known. In the specimen above, the legumes or seed-pods are shown. These are flat, about 1½ inches long, and somewhat more than ¼ inch wide.

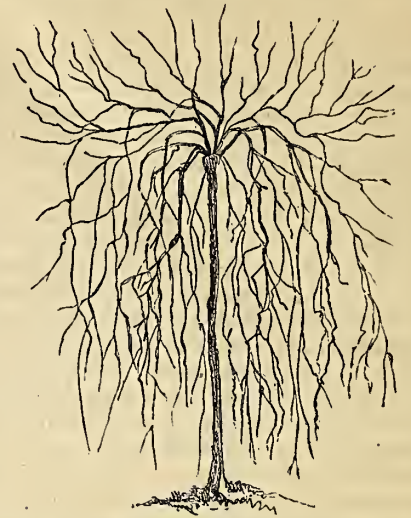
IMPROVED SENNA TEA.

Senna tea has long been known as a prompt, efficient and very safe purgative, well adapted to fever complaints, and other cases where a decided but not violent action is desired. We well remember when, especially at the West, the coming of a physician, was an almost certain precursor of a dose of "salts and senna," following the inevitable "calomel." The salts, or some aromatic, was added to mitigate the severe griping occasioned by senna administered alone. Latterly we have learned that, by putting senna into cold water and allowing it to stand for some time, an extract is obtained which is equally effective as a cathartic, with the hot tea, while cold made tea is far more pleasant to take, and it does not produce any griping effect. Those who live remote from a reliable physician—if so imprudent in their diet or habits as to require "physic"—will, we think, find a cold infusion of senna one of the simplest and most effective cathartic medicines that can be used.

WEeping TREES.

We are no special admirers of the artificially-made "weeping trees;" most of them, to our view, being awkward, distorted objects, sadly wanting in the grace and freedom of nature. But we now and then meet with specimens which greatly please us. In our own grounds, are the weeping linden, the old European weeping ash, and a variety of the weeping Scotch elm, which well deserve the room they occupy. At Roches-

ter, and in the College Park at Clinton, in this State, we lately saw the new American weeping



willow, which excited our admiration. It is a trailing species, of native origin, grafted on an upright stock eight or ten feet from the ground. The shoots are long and slender, and of a greyish purple, and they fall from the top of the tree like the spray of a fountain. It is harder than the common weeping willow, and, being of only moderate size, is very suitable for small yards.

It will prove an excellent and appropriate tree for planting in cemeteries. We give above a sketch of the tree taken as it appeared in Winter. Its beauty in Summer may be imagined.



MUSHROOM (*Agaricus campestris*).

MUSHROOMS AND TOAD-STOOLS.

To "Wisconsin Reader," we reply that it is next to impossible to describe these two plants so as to enable the inexperienced to distinguish them unerringly, unless he has once had them both together, in which case he could very readily recognize the mushroom by its delicate agreeable odor, and he would not be likely to afterwards forget the peculiar smell. The main points of difference were set forth in our article in the last *Agriculturist*, on the cultivation of the mushroom—See page 262. We present above an engraving of the general form of the mushrooms, and below is a fair representative of the Toad Stools



TOADSTOOL (*Agaricus ciracus*).

It will be seen that mushrooms and toad-stools both belong to the same genus (*Agaricus*). Dr.

Withering enumerates 213 species of the *Agaricus*, only one of which, the *Agaricus campestris*, or mushroom, is selected for cultivating in gardens. When about half grown the *gills* of the mushroom—that is the part under the oval shaped crown—will be found loose, and of a pink or flesh color. On breaking one of these heads the savory odor will be plainly perceived, while that of the toad-stool is disagreeable. One method of testing mushrooms is to place a silver spoon in the vessel where they are being cooked. If a toad-stool chances to be present, the spoon will be colored dark, which is not the case where there are only mushrooms. It is said that a similar effect is produced upon a white onion, used instead of the silver spoon.

WEEDS IN GARDENS.

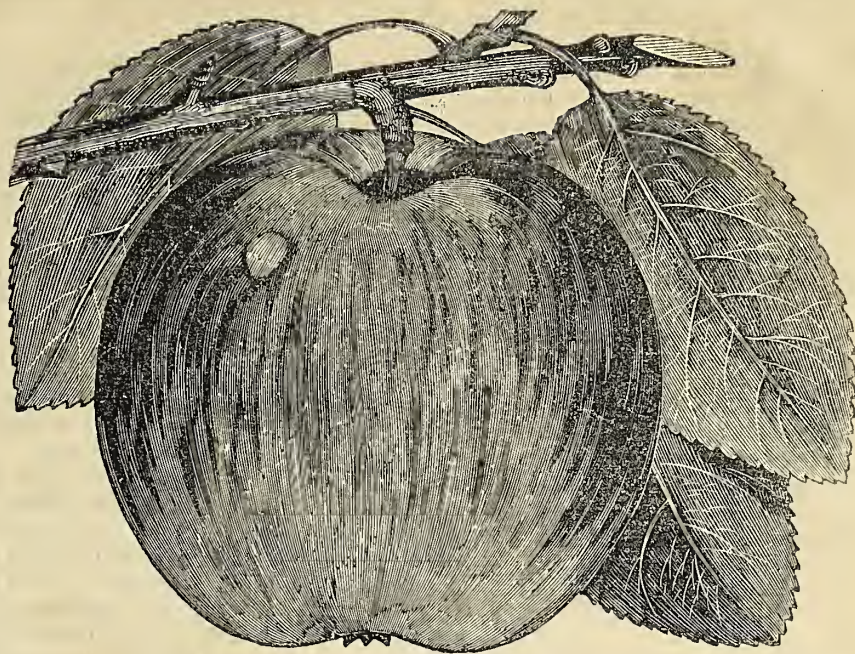
Nearly every garden is infested with a multitude of unnecessary weeds, and that chiefly because they are allowed to go to seed before any serious attempt is made to exterminate them. A single plant often has a hundred or more seeds with which to propagate its kind. What folly, then, to complain of weeds, if we allow them to sow themselves broadcast over our gardens! If our weeds were perennial plants, like the Canada thistle and quack-grass, the case would be different; but they are mostly annuals which need only to be kept from ripening their seeds to secure their extirpation. In China and some portions of central Europe, weeds in gardens are said to be almost unknown, simply as the result of long-continued and careful cultivation. A certain county in Pennsylvania is reputed to have rid itself of the Canada thistle, and there are gardens here and there, in our neighborhood, in which weeds are comparative strangers. Seeds, we know, will steal over from adjoining fields into the best managed gardens; but their number will be comparatively small, and the labor of keeping them in subjection not great, if none are allowed to go to seed in the garden itself.

DIBBLING.

This is the method of making a separate hole for and dropping each seed by itself. It may surprise some of our readers when we tell them that in Great Britain, and in many parts of Europe, large fields of wheat and other grains are wholly planted by this process. The ground having been prepared, a man walks backward over the field with an instrument like the one here shown, and makes the holes. He is followed by two or three children who drop the seeds, one, two or more in each hole. The Dibble is usually 1½ to 2 feet long, pointed with iron at the bottom. To regulate the depth of the holes a little cross bar is put into one of the holes near the point. Dibbling is still practiced extensively in field culture abroad, but the seed drills will soon do away with it. A dibble is, however, useful in the garden, both for putting in seeds and transplanting. A small instrument, 8 to 12 inches in length, is sufficient. They are frequently made from a shovel handle. Among other preparations for Spring work, it is well to whittle out a Dibble, and lay it aside for use when wanted.



Punch says experience is like a flannel waistcoat, that we do not think of putting on until we have caught cold.



HUBBARDSTON NONSUCH APPLE.

In pursuance of our design to describe, from time to time, the best variety of fruits, we give this month a sketch and description of one of the very best early Winter apples—the Hubbardston Nonsuch, so named from the town in Massachusetts where it originated. We hardly know its superior in beauty of appearance or deliciousness of flavor. Cole, from whose American Fruit Book the above cut is taken, describes it thus: Fruit large to very large; roundish, tapering moderately; skin smooth, fair, rich yellow ground, mostly covered with bright red, striped in the shade, generally russet around the stem, and sometimes a few large, prominent russet specks on other parts; stem medial length, rather slender, in a rather broad, deep, regular cavity; eye large, open, in a shallow basin; flesh yellowish white, tolerably fine, crisp, juicy, of a mild, pleasant, aromatic flavor, inclining to saccharine." Downing mentions a quality which is not noticed by other pomologists, and which is, in our view, one of its finest traits: "Of first quality; tree a vigorous grower, and bears very large crops; is worthy of extensive orchard culture. Flesh yellow, juicy and tender, with an agreeable mingling of sweetness and acidity in its flavor. October to January."

NOTES ON EARLY POTATOES.

We continue to receive inquiries on this topic, which we briefly referred to at page 267, (Nov. No.) There seems to be no first-rate variety in general cultivation.

The Early June is perhaps better known than any other variety, and is always in market, in large quantities, in its season. But this variety is not of first quality, is affected with the rot to some extent, and is not so early as some others.

The Early Sovereign is of English origin, is among the earliest and best, but is quite too small ever to be thought of for a market potato. The best early potatoes are confined to particular localities, and have not yet had time to be generally introduced.

The Carpenter Potato is well known in Eastern Connecticut, and is cultivated to a considerable extent in Rhode Island for the Providence market. It is of good quality, yellowish white skin and flesh, good size, very productive and not much

affected with the rot. It can be put in market in this latitude from the twentieth of June onward, and by forcing it can be had two weeks earlier. We have cultivated it three seasons, and think it among the best for an early market variety.

Studley's Seedling originated at Claverack, on the Hudson River, and is but just introduced. It is of first-rate quality, white skin and flesh, and is very hardy and productive, though it will rot sometimes. We have cultivated it two seasons, and have a very favorable opinion of it. It is a few days later than the Carpenter.

The Dover Potato.—A correspondent inquires of this variety. We have cultivated it for three years. It is said to be an old variety well known sixty years ago, and now widely distributed. It is sometimes confounded with the Danver's Seedling, a red variety, but of larger size and inferior quality. The true Dover is round, the eyes deep sunk, the skin red, the flesh of snowy whiteness, and of the first quality. It is a strong grower, very prolific, late in maturing, and all things considered, the best potato for a general crop with which we are acquainted. The only objection to it is, that it is deficient in size except in very good land. It does not appear to be so liable to rot as many other varieties.

THE POTATO ROT.

A sprightly correspondent of the New-England Farmer, proponds the following remedy for the potato rot. "By obtaining the original root as our forefather's did, and cultivating them till they became potatoes, and keeping them separate from all others, I think, that in a very few years our country would abound in a new and very flourishing generation of that vegetable. Why is it that this method has never been tried, or even recommended by your agriculturists? Is it because people have forgotten where the root grows, or because they never knew? Whilst our government are sending to all parts of the world to select plants and roots of every variety, let them call at Chili, where I understand the root was first found, and where it still grows wild, or at least it did thirty years ago, and there select a small bitter root as I understand it to be. It would be worth millions of dollars to the United States."

Where has the man lived, all his days, that he has not seen his suggestion recommended, time and again, in our agricultural journals for the

last ten years? We are happy to inform him that the world has kept alive the history of the potato, and that his remedy has been tried repeatedly. Seed has often been introduced from Chili, without government aid, and the seedlings of that origin are about as liable to the rot as seedlings from older varieties in this country. We have tested a potato from that country, so nearly like the Rough Purple Chili, that Mr. Goodrich introduced, that it could not be distinguished from it. Though of excellent quality, we were obliged to discard it after the second year. It is not free from the rot, and the vines blighted, so that it did not yield well. All similar experiments have proved failures, and we shall have to wait a while for that million of dollars. The disease baffles all the skill of the doctors, and of all the essays and experiments upon the subject, which are numbered by the hundred in our Patent Office and agricultural reports, we have never seen anything entirely satisfactory.

NEW TURNIPS.

Among the new turnips sent out from the Patent Office are, Ashcroft's Swede and River's Swedish Stubble Turnip. We have tried them both this season, and the harvest has turned out so much better than we anticipated, that we think both worthy of further trial. We received our seed from Levi Bartlett, of Warner, N. H., and followed his directions in planting them, about the middle of July. The land selected for the experiment was unpromising, the edge of a salt marsh, full of springs, and so wet that the water stood in little holes all about the surface. It was first surrounded with a ditch two feet deep, cutting off all springs from the adjoining upland. We then turned in the crop of strong sour grass, and with it a light dressing of eel grass from the shore. It was allowed to stand a few days, and was then raked off and planted in drills two feet apart.

The seed came up imperfectly, particularly those of the River's Swedish Stubble. After they were well up, the young plants were thinned and dressed with superphosphate of lime, (dissolved bones). At the second hoeing they had a light dressing of plaster. This was all the manure they received, and they were hoed but three times. They were harvested early in November, making their season three months and a half. We had ten and a half bushels from less than two square rods of land. The Ashcroft's is a purple turnip, and many of the specimens were four and five inches through, and about as smooth as if turned in a lathe. They are a very sweet, good flavored turnip for the table. The River's grows a little larger than the Ashcroft, is not quite as smooth, and is lighter colored. We have formed a high opinion of both these varieties. It will be seen that they admit of sowing near a month later than the common ruta bagas. They can come on as a second crop after early potatoes or after early cabbages and peas. This will be a great advantage to that large class of farmers, who live near good markets and wish to make the most of their land. With such fine varieties as these, we are confident that turnip culture will make progress among us.

SEED FOR DISTRIBUTION.—We have sent to England for a bushel of seed of each of the above kinds of turnip. If we succeed in getting it, it will be offered in our Seed Distribution in small quantities.

Cover all seeds with at least their own thickness of soil; but as some of it gets washed off, you must allow for it.

PATIENCE DOCK.

This dock (*Rumex Patientia*), sometimes called Herb Patience, deserves more general culture. It is a native of Italy, and held in much esteem, by the Germans who call it Winter Spinach. A hardy perennial of early growth its long broad leaves furnish a very good substitute for spinach, long before Spring sown plants are large enough for use. In Sweden it is extensively used with one-third part common sorrel to give it more sprightliness of flavor. The seeds may be sown in early Spring as spinach. As the *Rumex* grows four to six feet high with long leaves, the plants should be at least one foot apart. As the leaves bear cutting down several times during the season, when a bed is once planted it furnishes "greens" in abundance for many years.

We have secured a quantity of the seed to be distributed among our subscribers, during the Winter and Spring. We are aware that many farmers with strong aversion to the *yellow dock*, they have so long tried to eradicate, will fear they are introducing a pest into their grounds by sowing the *Rumex*. They need not hesitate about this plant as it is easily eradicated if at any time it should spread over too much ground.

ABOUT BEANS.

The importance of beans as a farm crop, we assume as granted: we now wish simply to notice one objection sometimes made to their cultivation, viz: that they exhaust the soil. Science declares that they impoverish land more than corn or grain crops. Here are just the words: "A product of 30 bushels of beans per acre will remove, say 490 pounds of nitrogen or flesh-forming substance, while the same quantity of wheat per acre will remove only 260 pounds; of barley, 40 bushels will remove 280 pounds; of oats the same quantity will take away 275 pounds." And then the straw of the wheat must carry off its portion of the same element.

Why, then, it may be asked, should farmers cultivate this hurtful plant? For the same reason that they cultivate corn, or tobacco, or hops, or any other very exhausting crop: it may make large draughts on the soil and require heavy manuring to restore them, but then it *pays well*. Nor is this all: When properly cultivated, we seriously doubt whether it injures the land so much as has been supposed. Look at its large leaves; don't they show that the plant is designed to draw much of its nourishment from the atmosphere? In this respect, it is like clover, and unlike wheat and oats with small leaves. And then, many of those leaves fall and decay upon the ground, thus adding to its richness.

Look, too, at the long tap-root of the bean. It does not ramify all through the surface soil, as do the corn roots: it pierces down into the sub-soil, and then sends out its spongioles at the very bottom. It goes deeper in proportion to the thoroughness with which the soil is tilled. And this is just what we affirmed: with deep cultivation, it is doubtful whether this crop is so exhausting as is sometimes supposed.

One little "garden patch" of ours has been very profitable this season. The snails ate up the cucumbers—the chickens ate up the snails—the neighbor's cats ate up the chickens, and we are now in search of something that will eat up the cats! Can any of our agricultural friends aid us?—Alabama Planter.

The world makes us talkers, but solitude makes us thinkers.

FRUIT TREES FROM CUTTINGS.

We have often seen statements going the rounds of newspapers—sometimes introduced into a portion of the so-called agricultural press—that twigs cut from apple, pear and cherry trees if seared with a hot iron, coated with wax, or if inserted in a potato and planted in the ground, would readily take root, and orchards of any variety of fruit might easily, cheaply and speedily be raised. Our attention is called to this topic by several letters before us asking if the statements are correct. We do not so much wonder that some people should give credence to this report, when it is well known that the quince, grape, willow, &c., strike quite freely from cuttings, and reasoning from analogy one might expect the same from the pear. Such, however, is not the case, for with an occasional exception, only with a great deal of pains under glass, can the cuttings of the above named fruit trees be made to grow; and even with this treatment, the proportion is so small, and the care and labor so great, that it is far more economical to produce fruit trees, with the exception of the quince, in the ordinary manner of grafting and budding seedlings, rather than attempt to grow them from cuttings, no matter what solution they are treated to, or what vegetable they are thrust into.

NOTES AND QUERIES FROM IOWA.

Letter from a Lady—Rose Bushes from Seed—Perennials on the Prairies in Winter—Annual Flower Seeds—Ground Cherry and Ground Apple—Wild Prairie Flowers—An opening for an Eastern Florist—Early Frosts—Chinese Sugar Cane successful—&c.

To the Editor of the American Agriculturist:

Your invaluable paper comes to us every month, and we learn many useful things from its pages. Wishing, however, to know more of some things, I take the liberty to write you. First, I would inquire of roses, how to raise the bushes from seed. Will seeds vegetate, if a year old or more? Will those grown from seed be like the original? What soils are best for roses?

It is thought by many, that perennials, such as pinks and bulbous roots, can not be kept here unless taken up in the Fall. A neighbor who has lived in Illinois, says she tried it five or six Winters, and lost the pinks every time. She thinks the soil of the prairie is not dry enough for them. I have quite an assortment of late annuals, but would like some that blossom before August. Where can such seeds be obtained?

Much is said this season of the "Ground Cherry." It grows wild here. The fruit known by that name, is yellow and has a five-sided husk. Two other kinds resemble it somewhat—one called the "Ground Apple," a little larger than the cherry, and red when ripe, with a round colored husk, the other, still larger, purple, and called the "Southern Tomato." I will try to send you a sample of each.

Many plants grow wild here that are only found in gardens, where I lived at the East, (Oswego Co., N. Y.) The trumpet-honeysuckle, (*Lonicera*), clambers over the oak, almost equal to the wild grape. Spider-wort, (*Tradescantia*), shows its beautiful blue flowers, almost everywhere. Our garden was well furnished with wild violets, columbine and sunflower, and a dozen others that are new to me. To tell you of the prairie flowers would be an old story. If they can be cultivated East, some gardener might make his fortune.

This has been an excellent season for crops

Any quantity of wheat can be had at 50 cents per bushel, and potatoes 25 cents. Potatoes are not quite as good as usual on account of rains in August, but everything is plenty except *money*. The effects of the great "*Panic*" are felt here a little, and will, probably, be more so during the Winter.

Can you tell me who publishes a list of seeds, annual and perennial, with prices, time of flowering, &c.? The article in the October number, on "*Bulbous Roots*," pleases me much, and I must send by some merchants to get some, but I would like a list to choose from.

The first frost came on the morning of Sept. 30th, heavy enough to "nip" the gardens and loosen the butternuts.

I had almost forgotten to mention the Syrup made from the Chinese-Cane, and exhibited at our Fair. A few miles from here a farmer has made several barrels, and says one may sell at 30 cents per gallon, and then make money by it. The lowest price for common molasses has been \$1 25 per gallon, and hardly fit for use at that. The new kind is excellent.

Mrs. L. A. MITTS.

REMARKS.—Rose bushes are not often raised from seed, as it is a slow process, and there is no certainty of producing desirable kinds. They are usually propagated by divisions of the root, layers and cuttings. A sandy loam is perhaps the best soil for them, although they flourish well on rich gravel lands—in fact they will grow on almost any soil.

Perennials and bulbous roots should succeed even in the northern part of Iowa. A moderate covering of leaves, or evergreen brush will cause them to start earlier in the Spring. If the soil is wet, either drain or trench it, or raise the bed a little above the surrounding surface. We are confident with this preparation and a moderate covering during the Winter they will succeed. A. Bridgeman and J. M. Thorburn & Co., seedsmen of this city, publish descriptive catalogues which they mail to applicants upon the receipt of a stamp to pay postage. Flower seeds are often mailed to long distances.

AN HOUR'S STRUGGLE WITH POISON.

I was spending some days, not many years ago, in a beautiful little country village, and in a family that had more than common attractions to one who loves domestic life as well as myself. The little circle had in it more of real interest than I have often seen developed in the same number of persons.

The father of the family—almost too young to feel yet that he was entitled to that honorable appellation—was a fine, frankhearted young mechanic, with a wide world of bounding life in his veins, and energy that, when fully aroused, drove everything before him, and a warmth of disposition that won him more friendship than it had then given him of the goods of this world.

His wife, to whom he had been married some four years, was singularly beautiful. They had two children—the one a laughing brown-eyed and brown-haired little fairy of three years. Her name was Eveleen. The second was a crowing, laughing, blue-eyed, plump little beauty of less than a year, promising to have all the charms of the older at her age.

I was sitting one afternoon in a quiet little room, with my feet upon two chairs, reading a pleasant little book, in a state between asleep and awake—my host away at his shop, a hundred yards off, and my hostess engaged in her household labors—when I was thrown out of my indolence by a scream that brought me to my feet like

an electric shock. It was a woman's voice, and had in it an excess of agony that cannot be indicated in words, so loud that it rang over that quiet little village, and brought every one forth to ascertain the cause.

I sprang to the door that separated the sitting-room from the dining apartments, and saw the whole at a glance. The young mother stood at the door with her first-born—our darling Eveleen—in her arms dying. A brief and hurried word from the servant told me the sad story. The little girl had accompanied a child-uncle up stairs, and while the attention of the older child was for a moment turned away, she seized a bottle of corrosive sublimate in alcohol, prepared for bug poison, and swallowed enough to take away twenty such lives.

The little thing had tottered down stairs, and the mother had met her at the landing with the empty bottle in her hand, and the poison oozing from her mouth, and the child all unconscious of the fearful thing she had done. Was it any wonder that a fearful shriek rang out over the quiet village, and that already the occupants of every house near were rushing toward the spot where the mother stood.

But a few moments could possibly have elapsed since the poison was taken, and yet the effect was already fearful. After the first shriek of terror, the mother had quieted to a calm despair for the moment, and stood with the child in her arms, making no effort for its relief; and indeed it seemed hopeless, for already the subtle poison seemed diffused through the frame; the brown eyes had lost their lustre, the face was blackened as in after death, and the teeth were tight set in a convulsive spasm that evidently would not pass away. I examined the little lost darling for a moment, saw that it was hopeless, and then turned away, unable to bear that mother's agony. The little door was already half filled with villagers, and sobs, and moans, and lamentations over the fate of the dying child were heard in every direction, mingled with quick and hurried questions as to the manner of its occurrence, and vain attempts at answering, which added an oppressing confusion to the sadness of the scene.

The little play-fellow's uncle, who had been up stairs with the child, had run instantly to call the father, and but a few moments elapsed before he sprang into the middle of the group. He had been told all, and asked no questions. I had time to remark that his eye was very stern and that his lip was very firmly compressed. Others, too, remarked it, and I knew afterwards that a murmur ran round the circle of how strange it was that he betrayed no feeling.

He reached out his hands, and took the child from its mother. Its eyes were now closed, and a white ooze coming from between the blackened lips. Was ever death more assured? I saw him open the eyelids, and heard him give a sigh of relief. He told me afterwards that the eye was not shrunken, and so death had not begun. He then attempted to open her mouth, but the teeth were tight set, and they resisted his efforts. But with a force that seemed almost brutal he wrenched the teeth apart, and opened the mouth.

"Shame," cried one of the bystanders.

The father did not heed them, but motioned to a neighbor to take the child in his arms. He did so.

"Bring me the egg basket," he spoke very sternly, almost without opening his teeth, to the servant.

"What do you want of it?" "What can you do with it?" "He's crazy!" and many such remarks followed, but the basket was there in a moment.

He seized one of the eggs, broke it, inserted his fingers again between the teeth and wrenched them open by force, though they shut with so convulsive a motion as to tear the flesh from his fingers, and poured the albumen (white portion of the egg) into the throat. There was a slight strangle, nothing more, and the spectators were horrified at the action.

"Don't, the child is dying!" cried one.

"Please don't hurt the little thing—it can't live!" the mother found voice to say, laying her hand upon his arm.

"Mary, be still!" he answered sternly, while his teeth were relaxing from their clenching, and his face as hard as if he was entering a battle; "and don't any of you meddle with me, keep off."

The bystanders involuntarily obeyed, with many harsh remarks upon his cruelty—but he did not heed them, and went on. Another and another egg was broken, and still there was no sign of life. Then the whole body of bystanders broke out into a loud murmur, and cries of "brute!" "Let the child die in peace!" "He is crazy—take the child away from him!" were heard around him.

He desisted for a moment from his efforts, and turned with a fierceness which had before been altogether foreign to his nature—but no one who saw him afterwards forgot it. "Fools," he hissed, "mind your own business, and leave me to mine? Take her away will you! Try it!" and he went on emptying egg after egg down the apparently lifeless throat.

The mother could stand this no longer. Her first-born was being tortured to death before her eyes in its death, and she imploringly flung herself on her knees before her husband's father, who had at that moment arrived.

"O, father, do stop him," she gasped—"He is torturing that poor dying child."

The grandfather started forward a step to interfere, for he, too, thought the proceeding an outrageous one; but he stopped and said, "Mary let let him alone. The child will die if he does not go on. It cannot do more than die if he does. I would not say a word to him for the world."

There was a silence then. In a moment there was a quiver of the eye-lids, a convulsive movement of the chest, the teeth lost their tension. The father seized his child, turned her face downward, and the poison began to flow from her mouth. Again and again, as the retching ceased, he repeated the experiment—the life returning still more, and the face losing its blank color every instant. More than twenty times had albumen been administered, and more than half those times followed by the expulsion of the poison, when the eyes opened, the father desisted, the little sufferer lay just alive in his arms, exhausted, its little life terribly shattered, but saved.

Then—when the necessity for exertion and determination was over—when the physician had been summoned, and they knew that darling little Eveleen might live, after many weeks of struggle between life and death; when the relieved friends had acknowledged that they had wronged him first; when the beautiful and sorrowful wife had blessed him through her kisses and tears; and all knew that under God only such an almost fierce determination could have saved the child—then the father sat down unnerved, and wept like a child.

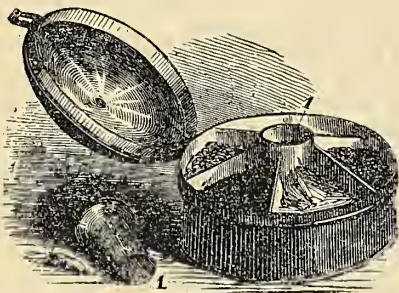
Not as in "*Little Sister Evelyn*" did the poison do fearful office. Eveleen is alive to-day, and her brown eyes are opened upon a womanhood. But there is no hour in my life that brings so thrilling a recollection as that of the young father's struggle for the life of his child.

IN DOOR WORK.

NOTE TO OUR LADY READERS.

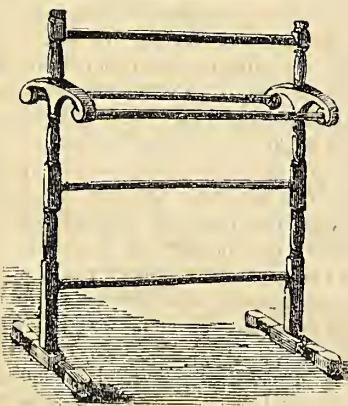
As intimated in our last number, we shall during the progress of our next Volume devote an increased degree of attention to the department of In door labor. There are very many practical hints to be derived from simple philosophical principles, which add greatly to the pleasure and interest of household work, while promoting and assisting in the performance of the daily drudgery of female cares. Among the topics to be thus discussed, we may name: preparation and adaptability of various kinds of food, baking, cooking, cleansing, coloring, clothing, ventilation, &c. These principles we hope to take up and elucidate in a series of chapters adapted to the comprehension of all. We propose also to introduce a variety of illustrations of useful implements.

We respectfully solicit from our lady readers, hints, suggestions, drawings of new articles of furniture, convenient house-keeping articles; also any improvements in modes of cooking, &c. We shall now have abundance of room to devote not only to the out-door, but also to the in-door labor of rural life. The space allotted to this department is necessarily curtailed in the present number, by the Index and the extended reports upon the new sugar cane



A CONVENIENT SPICE BOX.

The above illustration represents a very convenient spice box, which we have not noticed in many families, nor have we seen one of this form on sale in house-furnishing stores. We have, therefore, made an engraving of it, which is so plain as to require little explanation. The box may be made square, six or eight-sided, or round as here shown. It may be of wood, or plain or japanned tin, or of other material. Any tin-worker could make one. The various spices are kept in the several divisions, while the grater (1) fits into the center.

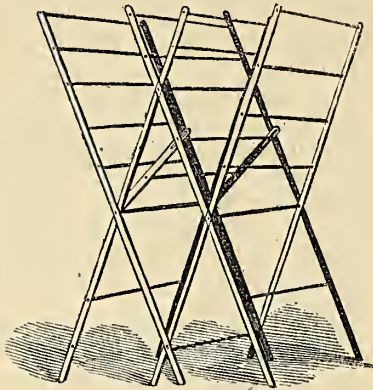


TOWEL BARS.

This is so common a piece of furniture as to need no description. We present the above only

as a good pattern which anybody can take to a cabinet-maker to be imitated. It will be noticed that two of the bars are outside of the center, which allows of several towels being dried at a time without their hanging together. We have a different pattern which we like still better for common use, but could not show its construction by an engraving. It is somewhat similar to the folding clothes-dryer described below, but on a smaller scale.

FOLDING FURNITURE.



Clothes-dryer Open.

In our visit to the recent Exhibition of the American Institute at the Crystal Palace, we saw nothing which pleased us more than a lot of Cram's folding chairs, tables, bedsteads, settees, clothes-dryers, &c. Almost every variety of house-furniture seemed to be constructed for folding together and packing into the smallest possible space. Above is an example of one of the simplest. When spread out it occupies about as much space as four chairs set together, and yet affords hanging room equivalent to a clothes-line 80 feet in length; that is, there are 20 rods, each

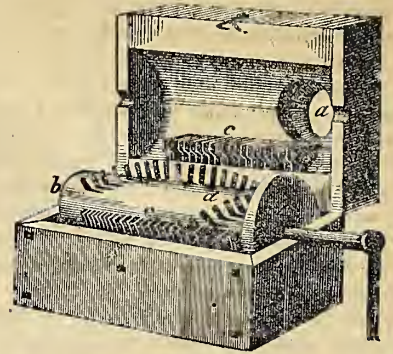
4 feet in length, no one of which is directly under another. In the side cut is the same implement folded together, so as to occupy little more space than a short ladder. They are made of various sizes, giving from 15 to 160 feet of drying surface, and cost at retail from 60 cents to \$6 00.

With an arrangement like this, which could be stored in a corner when not wanted, the housewife would be almost independent of the weather on washing days, while the cost is little more than that of clothes lines enough to wear as long as one of the folding dryers. Considering the advantages of being able to wash when one wishes to, and not having to bring in, rinse and carry out the clothes if a storm chances upon washing days, and also the saving of wear upon garments hanging in the wind, we must put this down as an economical "labor-saving" implement.

No man ruins his health without bringing the consequences down upon himself. Like Samson, he destroys the temple, and buries himself in the ruins.



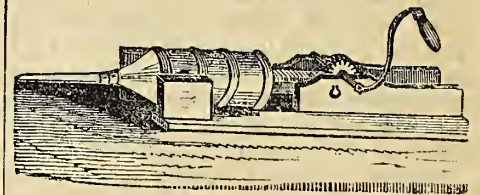
Clothes-dryer closed.



SAUSAGE AND "HASH" CUTTER.

How many wearisome hours are passed hammering away with the inevitable bowl and chopping knife, from week to week, and month to month—not to mention the days required at the sausage making season. There is no better food than finely chopped hash, but how many good housewives are absolutely compelled to forego the pleasure of serving it up, simply for want of the time and strength required to prepare it. This labor may be greatly lessened by the use of a simple, cheap implement, like the one shown above. It consists of a plain box, in which a series of knives, *c, c*, are set near each other, between which play the square iron pins, *d*, fastened into a roller, *b*. When the cover is shut down, the meat, or meat and potatoes for hash, are dropped through the opening, *a*. The spiral motion of the teeth moves the materials along gradually, and they are finally dropped out of a hole in the bottom at the other end of the machine. The discharging opening is under *b*.

The boxes are made of both wood and iron, and cost at retail from \$2 to \$9, according to the size—the latter price being for large machines used at sausage manufactories. Those having two rows of knives, one row on each side of the box, and costing \$3½ to \$4½ are perhaps the cheapest, in the long run, for family use. To say nothing of the saving of labor, it may be added that such a machine would contribute to the health of children, and grown up fast eaters particularly, since such persons usually "bolt" food in a state wholly unfit for the slow digestion or dissolving process carried on in the stomach. If people will not masticate their food with the instruments nature has provided, it is certainly desirable that machinery should be used for the purpose, rather than that they should tax their digestive organs with large pieces of meat, which lie for hours as an irritating poultice, before they can be entirely worked up by even the strongest stomach.



SAUSAGE FILLER.

"Stuffing Sausages" is hard work for the "chest," as every one knows who has tried it for a few hours. Our engraving shows the construction of a cheap and effective machine for accomplishing this work easily and rapidly. It differs little, in general form, from the old-fashioned implement. The tin cylinder is made of large size, and rests near the center upon two pivots or ears. It is lifted out, or tipped up, when putting in the meat. The handle of the follower is fitted with cogs, and is carried forwards and backwards by

cog-wheel turned with a crank, and it is moved with great force by a little power applied to the handle. They are sold at \$1 75 and upward, according to the size. Where a considerable supply of sausages is made in a family, one of these implements will be found both convenient and economical.

POISON ANTIDOTES.

Every one should be fully aware of the best remedies for some of the more common poisons, so as to be ready to act at once in any emergency. We will name some of these remedies—only one or two at a time, that each one may become fixed in the mind. Read the thrilling sketch on page 213, and you will never forget what antidote to give for *Corrosive Sublimate*—rather, we think, you will never leave that “bug poison” where a child can possibly get to it. It is better to administer albumen (white of eggs) beat up with a little water, but no delay must be allowed. The only hope of counteracting this deadly poison lies in prompt action. If eggs are not on hand at once, give large and repeated doses of flour mixed with water, or better with sweet milk. Milk itself is a partial, if not complete antidote for corrosive sublimate.

Arsenic.—The best antidote for this poison is a chemical substance called *Hydrated Peroxide of Iron*, freshly prepared, which can only be obtained of a druggist. But do not wait for this. While it is being sent for, and at the first moment after discovering that arsenic has been taken, pour down dose after dose of water slightly warmed, promoting vomiting by thrusting the finger or a feather down the throat. Keep up this until the stomach has been literally washed out, at least a dozen times. A friend of ours took a teaspoonful of arsenic in mistake for cream of tartar, but discovering his error soon after, he ran to the stove and commenced drinking all he could pour down of lukewarm dish water, which happened to be there. As fast as this was thrown up he took another dose, and in this way actually swallowed and vomited half a pail full of water. He recovered without any other remedy. This treatment is good for most kinds of poison if adopted soon enough.

BEST THING FOR BURNS.

It may be put down as a settled fact that the very best application for all kinds of burns and scalds is an immediate application of dry *wheat flour*. It is without controversy better than any and all of the “healing salves,” turpentine, oils, “pain-killers,” &c., that can be named. We speak positively on this point, because it is one decided by the best physicians, and we have had abundant practical proofs of its efficacy.

Heat disorganizes the flesh, deadens the cuticle or outer skin, and admits air which is irritating. A good coating of flour, shuts out the air, soothes the irritation, and dries up the fluids thrown out. Do not imagine that “something healing” must be applied: Not all the salves in the world can mend broken flesh. You can stick together broken glass, or wood, with wax or glue. You can weld together severed iron, but no such treatment is applicable to flesh disorganized, cut or burned away. Nature, so to speak, has a way of her own, and only one way to repair a breach in the flesh. *The healing material comes from within.* If the hand be cut, bring the severed parts together, hold them there steadily, cover up the part from the air and from external injury and the healing will go on so long as there is no disturbance. If from curiosity, or anxiety, or other

cause you disturb the half formed new flesh, a sore will be the consequence.

We repeat, for all kinds of burns or scalds, however severe, put on *only* a thick coat of flour. If a hard crusty mass be formed so as to produce irritation, after a day or two wash off the surface carefully with blood-warm water, dry partially, and put on more flour, but never disturb the actual surface of the sore until, when entirely healed, the scab falls off of its own accord. Our word for it, this treatment will best promote the cure of burns. But a short time since a child upset a dish of boiling water into its bosom, producing a fearful scald upon the whole front of its body. The mother, chanced to be a reader of the *Agriculturist*, and noted our remarks on this topic some two years ago. She immediately applied flour and flour only, binding it on with a cloth loosely so as not to produce irritation. The child was soon soothed, and in a very few weeks was entirely healed, with scarcely a scar remaining. This is but one of many similar instances that have come to our knowledge from time to time.

BAKING BEETS.

A correspondent, who has traveled in Italy, says that one of the interesting novelties in that country was “Baked Beets,” carried hot from the ovens and sold in the streets at almost all hours of the day. He tried them as a matter of curiosity, at first, and found them very delicious when eaten with butter, salt and pepper. Thousands buy and eat them thus, and, not infrequently, make up an entire meal in this way. This is not new to us. In Volume XIII., page 117, we recommended baking beets, and we can assure all who will adopt this mode that they will find it much superior to boiling, as baking renders them much more tender, sweet and juicy.

OUR BASKET

Into which are thrown all sorts of paragraphs—such as NOTES and REPLIES to CORRESPONDENTS, with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources.

To CORRESPONDENTS.—More than a page of interesting “Basket Matter,” has been crowded out of this number by the Index, &c. This could not be helped—a peek measure can not be made to hold a bushel by any process we know of. But we shall have the *bushel* measure itself during the next eleven months.

Spring and Fall Transplanting.—P. L. S. Peach, Cherry and Dwarf Pear trees, are transplanted with more safety in Spring than in Autumn. Strawberries may be transplanted at almost all times from April to October inclusive, except at the bearing season in June and July. The best times are, as soon as the ground is settled in April or May, and in August or September, when the runners are rooted sufficiently to be taken up.

Shade Trees.—These as well as fruit trees may very properly be set out in the Fall. We prefer Spring for planting Evergreens. See under Orchard and Nursery and the Lawn, page 243 of the November number, also, “Choice Ornamental Trees,” on page 258.

Grafting Peach Trees.—“Subscriber,” at Shirleysburg, Pa. Peaches can be grafted, but budding is safer and preferable on many accounts.

Covering Raspberries.—J. C. Jackson, New-Castle Co., Delaware. We think there will be no necessity for covering raspberries in your latitude, unless more tender varieties than the Antwerp, Fastoff or Brinkles’ Orange. We protect these kinds here, by bending them down carefully and putting on two or three inches of soil.

Tar around Trees, and Raising Evergreens.—S. S. Wiest, Lancaster Co., Pa. Tar applied to trees may prevent mice from girdling them, but it stops the pores and injures the trees. It may be put on paper or cloth and wound on loosely, if desired. Raising evergreens from seed was treated of at length on page 13 of this volume, January No., and chapters on evergreen trees and shrubs can be found at pages 108-9, May No. Further information will be given in the next volume.

Grape and Blackberry Cuttings.—H. A. W., New-York. Grape cuttings may be made as soon as the frost has killed the foliage, say from the middle of October to the middle of December. Blackberries and raspberries are propagated by suckers from the roots rather than by cuttings. The roots themselves are sometimes cut up and planted when the largest possible numbers are wanted from a few plants. One to one and a half feet in length is sufficient for the grapecutting. Leave but a few inches out of ground when planting in Spring. It is not necessary that the earth come in contact with every part of each cutting when buried for the Winter, although a bank should be raised over the whole.

Strawberry Plants by Mail.—J. M. Weaver, Henry Co., Tenn. Small plants may be forwarded by mail, but they need to be cramped so much and put up with moss, or damp packing, and are subject to so much hard usage in mail bags, that it is safer, and in the end cheaper to send all live plants by express.

King Philip Corn is brown or dark yellow. If S. H. J., of Mich., has it of a light yellow, it must have hybridized with some other kind growing near.

King Philip Corn.—T. R. J., and others. We shall probably have this in abundance for distribution next Winter, if it is desired. Have none ready now.

American Ivy and Dahlias.—Mrs. C. Stanley, Jefferson, Mich. The American Ivy, (Virginia Creeper), is propagated from the root. A plant obtained at the nurseries costs about 25 cents. Dahlias are raised from the bulbs rather than from seed, as referred to elsewhere.

Sugar Cane Seed Wanted.—F. A. Bissell, Tolland Co., Conn. There will be plenty of this seed on sale, during the Winter, by different dealers. It is too early to have the market price fixed as yet. Great care will be needed in the selection. We already hear of spurious seed—mixed with Doura Corn.

Peanuts.—Thanks to J. H. P., for drawing—in engraver’s hands.

Onions and Parsneps.—Our querent will find directions for raising the former on pages 57, 91 and 163 of this volume. Good parsneps can not be raised from the seed of wild varieties.

Drying Pumpkins.—P. L. S., and others. See page 266.

Books on Draining and Cranberry Culture.—Jas. Leslie, Toronto. The only American books on these topics are Munn’s Land Drainer, price 50 cents, and Eastwood’s Cranberry Manuel, price 40 cents. Draining has been pretty fully discussed in this volume of the *Agriculturist*, of which the back numbers can be supplied, as noted elsewhere.

Poudrette, Tafon, &c.—Robt. Wash, Albany County, N. Y. These are French and Chinese names for night soil, (human excrements.) The articles, sold under these names, are prepared from the materials removed from the privy vaults in our cities, by mixing with dried muck, peat, charcoal dust, plaster, &c. If well made, that is, not too much diluted with the muck or other absorbents, they are undoubtedly good fertilizers. The good or bad quality depends entirely upon the honesty and good management of the manufacturers.

Pianos.—Miss C. P., of Buchanan Co., Missouri. We should be very glad to comply with your request to select a piano in this city, without the generous commission offered, but, though a lover of music, we do not consider ourselves a good judge of any musical instrument except the *human* one. Miss P. will find in our advertising columns the business card of Boardman, Gray & Co., whose pianos are in high repute the country over.

Barberries.—To “Michigander.” These grow in a wild state, abundantly in Massachusetts and Rhode Island. They are also found in some parts of New-York and Connecticut, and elsewhere. They are usually increased in numbers by dividing the roots, but may be raised from seed.

Osier Willows for Hedges.—T. Pomeroy, of Onondaga Co., N. Y., writes that he has 50 rods of Osier hedge, which bids fair to be successful. He wishes the results of others with this plant.

Pumpkins, Lima Beans, &c.—T. T. Hawks of York Co., Maine, writes as follows: I planted thirty pumpkin seeds about the 20th of May, on old pasture land newly broken up, and manured them lightly. After they commenced running, I pinched the ends off the vines as suggested in the *Agriculturist*, when they sent out side shoots, and I now have some 75 ripe pumpkins weighing from fifteen to forty pounds apiece.

I also planted a few Lima Beans, May 23d, and now have vines 24 feet high, with ripe clusters of pods 15 feet from the ground.

Condensed Reports of Experiments with the Chinese Sugar Cane.

Name of Experimenters.	State	County.	Latitude	Soil.	Measure.	Planted at about	Headed out about	Height at time of heading.	About the time of ripening.	Height at time of ripening.	Diameter of foot from ground.
1. Wm. Wanzer.	Conn.	Litchfield.	41 1/2	Sandy loam	None	May 25	Sept. 1	9 feet	Killed Sept. 30	12 feet	1 inch
2. Wm. Crocker.	N. Y.	Erie	43	Sandy loam	Plaster	May 20	Sept. 24	7	Killed Oct. 1		
3. Thomas R. Joyner, Jr.	Va.	Accomac	38	Sandy loam	None	April 7	Aug. 15	10	Ripe Sept. 15	14	1 1/2
4. William J. Tracy.	R. I.	Providence	41 1/2	Light sandy loam	Hog-yard	May 20	Aug. 30	10	Killed Sept. 29	14	1 1/2
5. Hubert Williamson.	Pa.	Chester	40	Slate, subsoil porous	None	May 9		10	Ripe Oct. 15	12	1
6. Howard Greaves.	Ohio	Sandusky	41 1/2	Rich, black, stiff loam	None	June 15	Sept. 12	12		13	2
7. William Chase.	R. I.	Providence	41 1/2	Sandy loam	Stable	May 15	Aug. 31	12	Ripe Oct. 15	13	1
8. A. W. Russell.	N. Y.	St. Lawrence	44 1/2	Sandy	Barn-yard & leach'd ashes	May 29	Oct. 5	8 1/2			1 1/2
9. J. Selden, by John Hall	Pa.	Pike	41 1/2	Sandy gravel	Sod-leached ashes in hill	June 5	Sept. 17		Killed Sept. 29	10	1 1/2
10. J. Selden, by P. Grimes	Pa.	Pike	41 1/2	Damp loam, shelly sandstone	None—old garden	June 1	Sept. 18		Killed Sept. 29	10 1/2	1 1/2
11. Daniel Colklesser.	M.	Washington	39 1/2	Sand, rubbage, &c., well rotted	None	May 15	Aug. 15		Ripe Sept. 25	12 1/2	1 1/2
12. Alfred H. Brown.	Mass.	Worcester	42 1/2	Rich garden loam	1 stable, 1 ashes & plaster	May 26	Sept. 20	5 1/2	Killed Sept. 30		1 1/2
13. C. P. Vancil.	Ill.	Sangamon	40	Black loam	None	May 16		10	Ripe Sept. 14	11	1 1/2
14. S. Sayer.	Ohio	Cochaco	49 1/2	Black loam	A little barn-yard	May 15		10	Ripe Sept. 15	12	1 1/2
15. Dr. S. S. Keene.	R. I.	Providence	42	Clay loam	Barn-yard						
16. John A. Bunce.	Wis.	Juneau	43 1/2	Sandy loam	None—new land	May 22	Sept. 6	10	Cut Sept. 29	11	1 1/2
17. R. Cramer.	Ill.	Mercer	41 1/2	Sandy loam	None	May 27			Oct. 12	12	1 1/2
18. A. B. Price.	Ind.	Porter	41 1/2	Sandy loam, rich prairie	None	May 23		9	Ripe Oct. 15	11	1 1/2
19. O. M. Colkins.	Ind.	Spencer	38	Sandy loam	None—an old fence row	May 12	Aug. 28	11 1/2	Ripe Sept. 24	14 1/2	1 1/2
20. S. C. Pruden.	Iowa	Van Buren	40 1/2	Prairie loam	None	M. 1-J. 1			Ripe Oct. 12	14	1 1/2
21. John Frazer.	Ohio	Clinton	39 1/2	Clay bank	Old barn used to stand	June 14		10	Ripe Sept. 20	15	1 1/2
22. S. M. Berry.	Ky.	Scott	38	Clay soil	None	April 30	Aug. 10		Ripe Oct. 14	14	1 1/2
23. Wm. Kerr.	Ohio	Brown	39	Light sandy soil	None	May 15	Sept. 15		Ripe Oct. 1	12	1 1/2
24. Z. Beesan.	Ind.	White	41 1/2	Sandy loam	None	May 20	Sept. 1	11	Ripe Oct. 15	14	1 1/2
25. S. Williams.	N. Y.	Seneca	43 1/2	Clay	None	May 10	Aug. 24		Killed Oct. 15	13	1 1/2
26. Alfred S. Whidden.	N. H.	Stratford	43 1/2	Good garden	None	May 15	Sept. 15	12	Killed Oct. 5		1 1/2
27. Hiram Wilson.	C. W.	Benton	43	Light sandy loam	Slightly	May 20	Sept. 1			12	1 1/2
28. John Crapo.	Iowa	Benton	42 1/2	Dark sand and gravel	Coarse stable	May 18	Sept. 1	11 1/2	Ripe Oct. 16	13 1/2	1 1/2
29. Thaddeus Pomeroy.	N. Y.	Onondaga	42 1/2	Sand loam	None	June 1			Cut Oct. 14	14	1 1/2
30. S. S. Moser.	Ohio	Trumbull	41 1/2	Black loam	None	May 25	Sept. 15	9	Ripe Oct. 30	11	1 1/2
31. G. Engle & Co.	Pa.	Beaver	40 1/2	Clay loam	Compost and leaf mold	May 20		9	Ripe Oct. 19	10	1 1/2
32. Geo. W. Willson.	Ill.	Cook	41 1/2	Clay, with a little black loam	None	June 8	Sept. 10	9	Blo'n d'n O. 15	11	1 1/2
33. L. Eastwood.	Ohio	Lucas	41 1/2	Sandy loam	None	May 27	Sept. 6	10	Ripe Oct. 15	14	1 1/2
34. J. S. Woodward.	N. Y.	Niagara	43	Coarse gravel	Barn-yard	May 28	Sept. 15	10	Ripe Oct. 15	13	1 1/2
35. Frederic P. Bissell.	Conn.	Tolland	41 1/2	Sandy loam	None	May 25	Sept. 10	12		14	1 1/2
36. Samuel S. Thompson.	N. J.	Salem	39 1/2	Sandy loam	A little barn-yard	May 7	Aug. 15	9	Ripe Sept. 15	12	1 1/2
37. S. H. Jenks.	Mich.	Ionia	43	Sandy gravel	None	May 26	Sept. 1	9	Killed Oct. 2	11	1 1/2
38. S. W. Martin.	N. Y.	Allegany	42 1/2	Sandy loam	Poultry Droppings	May 26	Sept. 12			12	1 1/2
39. T. Cather.	Va.	Taylor	39 1/2			May 23		10	Ripe Oct. 22	12	
40. A. G. Weed.	Iowa	Howard	43 1/2	Good prairie	None	May 19	Sept. 15	10	Killed Sept. 25		
41. Joseph Troth.	Iowa	Linn	42	Sandy	None	May 10			Ripe Oct. 4	13	1 1/2
42. J. N. Weaver.	Tenn.	Henry	36 1/2	Clay loam	Barn yard	May 10	Aug. 15	9	Ripe Sept. 18	13	1 1/2
43. James Pott.	Pa.	Fulton	40	Slate soil	None	May 15			Ripe Sept. 30	12	1 1/2
44. H. G. Huling.	Ill.	Lasalle	41 1/2	Black loam	None	May 21	Sept. 1	9	Ripe Oct. 10	11	1
45. Almond Foster.	Ind.	Lake	41 1/2	Black sandy loam		June 1					
46. J. B. Hlingerford.	Ohio	Lake	41 1/2	Clay loam	Barn-yard	May 26			Killed Oct. 20	10	1
47. Milton Stebbins.	Mass.	Hamden	42	Sandy	Barn-yard	May 15		10	Killed Sept. 29	12	1 1/2
48. John Dexter.	Conn.	Windham	41 1/2	Sandy loam	None	May 13	Sept. 0	10	Killed Sept. 29	11	1
49. J. L. Stevens.	Me.	Hancock	44 1/2	Good garden	Old barn-yard	May 16	Sept. 15	9	Killed Oct. 22	9 1/2	1
50. John Brown.	Ind.	Harrison	38 1/2	Sandy loam	Barn-yard	May 15	Aug. 15	10	Ripe Sept. 20	13	1 1/2
51. A. McClelland.	Ohio	Holmes	40 1/2	Clay loam	None	May 21			Killed Oct. 19	12	1 1/2
52. Charles M. Keep.	Mich.	Calhoun	42 1/2	Clay loam	Stable manure and ashes	May 23	Sept. 5	9	Ripe Oct. 18	11	1 1/2
53. E. W. White.	N. Y.	St. Lawrence	44 1/2	Garden loam	Barn-yard	May 25	Aug. 25	10	Ripe Oct. 31	13	1 1/2
54. H. G. Ainsworth.	Ill.	McLean	40 1/2	Sandy loam		May 25	Aug. 20	10	Ripe Sept. 25	13	2
55. D. B. Simmons.	Ohio	Medina	41	Stiff clay	Barn-yard	May 21	Sept. 3	10 1/2	Ripe Oct. 15	12	1 1/2
56. F. A. Fleming.	Pa.	Clearfield	41	Sandy loam	Manure and ashes	June 3	Sept. 14	7 1/2	Killed Oct. 20	8	1 1/2
57. Geo. R. Pelton.	Ohio	Trumbull	41 1/2	Loam		May 27	Sept. 15		Ripe Oct. 15		
58. J. McRorie.	N. Y.	Wayne		Barn-yard		May 13		9	Killed Oct. 20	10	1

Condensed Extracts from letters accompanying the above.

No. 21 (of tabular reports above).—John Frazer, O. "....I planted late, June 14, as an experiment, and the cane fully matured. This crop has even surpassed the highest expectations of all, so far as I know, and I am daily hearing from nearly every part of the county. Every farmer is trying to secure seed for another year. From the trials hereabouts, the stalks average a pint of juice each, and 6 pints make one of good syrup. An acre will produce about 15,000 stalks, giving full 300 gallons of syrup. The cost of cultivation is about the same as Indian Corn...."

No. 22.—S. M. Berry, Ky. "....I have tried the Sugar Cane; am pleased with it, and believe it will fulfill the expectations formed. Owing to the season, my seed was in the ground 20 days, and only about 1/2 came up, weak at first. The syrup made in September was bitter. A second trial, made Oct. 20, after two heavy frosts, produced a much better syrup. Seed appears heavy, sound and good...."

No. 23.—W. Kerr, Ohio. "....Your 3-cent P. O. stamp package, I put on two square rods....Pressed it Oct. 5, with wooden rollers, which took out only part of the juice, but good sized stalks gave a pint each. From the plot I obtained 3 gallons of thick molasses equal to the best Sugar-house syrup...."

No. 24.—Zech. Beesan, Ind. "....I have made 400 gallons of syrup, some of it very good, grained a little...."

No. 25.—S. Williams, N. Y. "....The seed panicles appeared Aug. 24, and by the middle of September the seeds began to be tinged with brown; but though the frost kept off until Oct. 19, they neither filled or ripened more. The largest stalks were 1 1/2 inch in diameter below the lower joints, and were sweet and remarkably juicy, through their entire length. The main stalks were over 13 feet high. Cows eat them with a gusto, when cut in short oblique pieces....As Sorghum affords twice the nutriment of corn grown for soiling, it is very profitable for a forage crop; but I think it can only be profitable for syrup with the aid of a powerful crusher....What are we to do for seed...." Get it from more southern localities.—Ed.

No. 26.—A. S. Whiddan, New-Hampshire. "....Our first frost Sept. 29. A killing frost a few nights later destroyed all hope of maturing seed. I think that had the

past Summer furnished the usual amount of sunshine, the seed would have been safe, especially so, as a few hills matured last year on the same plot....Our syrup making conveniences were primitive enough—a common sugar crusher which took out perhaps half of the juice; common iron boilers of a cook-stove, with no ceremony save adding a small dessert spoonful of milk of lime to each pailful of juice, thrown in while the juice was boiling....We obtained at the rate of a quart of excellent syrup to a pailful, or say 6 quarts of juice....I should mention that the cane stood out until the middle of October—through several severe frosts...." This is from Stratford County, New-Hampshire, and in latitude 43 1/2°.—Ed.

No. 27.—Hiram Wilson, Canada West, latitude 43°. "....Our seed was planted too thickly—in hills 12 to 2 1/2 feet apart—some of the stalks generally attained 1 inch in diameter, but of them 1 1/2 inches, and 10 to 11 feet in height....Oct. 12, 8 days before anything like a killing frost here, we tried 40 green stalks, by cutting them in pieces, bruising with a mallet, and pressing out the juice as best we could by a very awkward and imperfect process. We obtained 6 quarts of juice, which made 1 quart of good rich syrup. We think it highly probable, if not settled beyond doubt, that with proper cultivation and management, the Chinese Sugar-Cane will thrive here, and produce 100 or more gallons of good rich syrup per acre...." So much for Canada.

No. 28.—John Crapo, Iowa. "....I cut a few canes Oct. 1st, peeled them, put them in a boiler over the stove, and left them with wife to attend to....I was astonished at the amount of good thick molasses quickly obtained. Several who have tested it, say it is a great way ahead of anything of the kind ever brought here for sale. I have saved all the seed likely to grow, and mean to plant an acre next year....My neighbors all want seed which I cannot spare. I direct them to you...." We shall probably be able to send out to each subscriber desiring it, a much larger quantity of seed than was given last Winter.—Ed.

No. 29.—T. Pomeroy, N. Y. "....I planted on the 29th of May and 4th of June. Sept. 9th, carried six stalks to our county fair and received a premium of \$5. Oct. 14th, I cut the cane and laid it upon the ground. Three inches of snow fell upon it but melted away the next day. Oct. 15th, I carried 2,000 stalks 4 miles to a wooden mill and

obtained 100 gallons juice, which I boiled down on the 20th and 21st, in iron kettles, to 25 gallons syrup. The syrup is very sweet to the taste, but leaves an unpleasant after taste resembling bitter, which characterizes all the syrup made in this region and will prevent the future planting of the cane unless it can be remedied...." This point is remarked upon elsewhere.—Ed.

No. 30.—S. S. Moser, Ohio. "....My plot, one-eighth of an acre, planted May 25, came up in about a week, and very slender, sickly looking things the plants were. The excessive wet weather washed out nearly half of them above ground. Under the circumstances it took 6 to 8 weeks to get one foot high, but after that you could almost see the growth. When killed by frost, the last of October, the stalks were 10 to 11 feet high, and 1/2 to 1 1/2 inches in diameter. With a rude mill, similar to the one described on page 237, October No., I pressed out juice enough for 10 gallons of very superior syrup, which I could readily sell here at \$1 per gallon....A good iron mill would have expressed double the amount of juice from the same quantity of canes.

No. 31.—Enoch Engle, Penn. "....Planted one-tenth acre May 20. This, like Indian corn, grew slowly for a long time....Oct. 19, a heavy frost partially killed it; only a part of the seed—about a half bushel—was ripe. Oct. 20, we extracted 20 gallons of juice with a simple set of rollers, and obtained four gallons of good, but rather thin syrup. Fifty selected canes gave 10 quarts of juice, with only about two-thirds of the juice pressed out. Hogs, Horses and Cows, ate the canes greedily...."

No. 33.—L. Eastwood, Lucas Co., Ohio. "....I planted 18 square rods; about one half drowned out, the balance I succeeded in keeping above weeds and water. From this I obtained 16 gallons of syrup. I first made a mill with 6 inch rollers, but with no cogs and it would not draw in the cane. I next got new twelve inch rollers with spur wheels, and running the canes twice through, pressed out most of the juice....At different trials, 10 selected canes gave 9 pints of juice....I crushed 12 different lot of cane grown in this county, with a variety of culture and soil, grinding it at different stages of maturity and one lot after the stalks were frozen soft. The riper the canes the better the syrup. The freezing did not hurt the juice.... I boiled in iron, in brass and in tin vessels. The tin-boilers made the nicest syrup. I have made a better syrup than I can buy here.... I am well pleased with the success,

and full of faith in the utility of this plant, and believe it will pay in this latitude, even in such seasons as the past has been...."

No. 34.—J. S. Woodward, Niagara Co., N. Y. "...I planted 120 hills, three feet apart each way, with seed received from you.... Oct. 15, cut and pressed it in a mill made of two beech rollers, costing \$2, besides two rainy day's work.... Obtained from the plot (4 rods of ground) 8 gallons syrup of fine quality, though not quite equal to the best Sugar House...."

No. 35.—F. P. Bissell, Conn. "...I have made some as nice syrup as I ever saw.... I am convinced, beyond a doubt, that making syrup from Chinese Sugar-Cane will be a profitable business in old Connecticut."

No. 36.—Sam'l S. Thompson, N. J. "...We made sundry experiments at different stages of growth, running the canes through a common cider mill.... Our syrup is better than any we have bought for a year.... We obtained more juice, with a larger per centage of syrup, from entirely ripe canes, than when the seed was in the dough state...."

No. 37.—S. H. Jenks, Mich. "...Planted package you sent me in 60 hills; got 35 gallons of juice; made 4 gallons of good thick syrup; cut canes Oct. 3.

No. 38.—S. W. Martin, N. Y. "...I cut up 142 canes, pounded them, boiled them, strained out the juice, probably did not get one-half of it, but I got over a gallon of syrup which was awarded a premium at the County Fair.... My wife used some of the syrup in about a gallon of plum preserves, for which it proves to be very nice.... I shall hardly get any seed unless from three canes I have taken up with the earth adhering, and put them in boxes under shelter...."

No. 39.—T. Cather, Va. "...Planted your letter package on 10 rods; hoed out the weeds twice without plowing.... I made ten gallons of excellent syrup or molasses, notwithstanding the cold season and late planting...."

No. 40.—A. G. Weed, Iowa. "...Seed planted very late and young plants much injured by grain.... Seeds had begun to turn at the time of frost, Sept. 28. I think in ordinary seasons the seed will ripen in Northern Iowa.... I made a small quantity of superior syrup, about Sept. 20...."

No. 41.—Joseph Troth, Iowa. "...Corn planted at the same time (May 10,) mostly rotted in the ground, but the Cane seed nearly all came up and grew slowly at first but in warm weather it grew finely.... A frost on Sept. 30, nipped the corn, but not the Sugar Cane which is now (Oct. 12,) still growing, and suckers shoot up from the main stalk...."

No. 42.—J. N. Weaver, Tenn. "...I planted in hills 2 feet apart in rows 3½ feet apart... Made one gallon of excellent syrup to the square rod.

No. 43.—James Pott, Pa. "...I manufactured 45 gallons of syrup this season from not over one-third of an acre, while with my rude machinery, I am satisfied that fully 15 per cent of the saccharine matter remained in the cane.... I feel well paid for my labor. The syrup is of a better quality than that purchased at 75 cents to \$1 per gallon.

No. 45.—A Foster, Ind. "...A neighbor traveling at the West, 'farm-hunting,' chancing to pass by Mr. Foster's sugar works, stopped and gleaned some items. Mr. F. planted one acre, and obtained 450 to 500 gallons of syrup, resembling in color and consistency the best New-Orleans molasses, and fully equal to it in quality.... Planted on prairie soil. Crushed with wooden rollers which expressed only about ½ of juice. Boiled down to one-fifth in sheet iron pans Saleratus used to neutralize acid...."

No. 46.—J. B. Hungerford, Ohio. "...Planted one ounce of seed on 25 rods of ground.... Pressed the cane in a wooden mill and obtained 17 gallons of good palatable molasses, superior to that purchased of grocermen...." Not room now for your good and full description of Mill. Imphee noted elsewhere.—Ed.

No. 48.—John Dexter, Conn. "...From 225 hills obtained 6 gallons of very superior syrup.... Crushed canes with a roller used for pressing leather, which took out only a portion of the juice. Fair sized stalks yielded a pint of juice each.... Boiled down 6 or 7 gallons to one...."

No. 49.—J. L. Stevens, Maine. Latitude 44° 22'. "...In a small experiment, obtained a little syrup, very sweet and of excellent flavor—wish I had a barrel of it.... Add to above table for No. 12. Success to the *Agriculturist*...."

No. 50.—J. Brown, Ind. "...The Sorghum is no humbug. I planted ½ acre, and made 40 gallons of superior molasses.... The speculators 'Out West' are already looking very wise and very happy, in the hope of making a grand speculation out of the African Imphee...." See remarks elsewhere.—Ed.

No. 51.—A. McClelland, Ohio. "...From your package I raised 225 good stalks, and many suckers which I fed out.... Raised 1100 good stalks from Washington seed. Cut worms injured it considerably.... Pounded and boiled

100 stalks from your seed, and made 3 quarts good molasses.... From the 1100 stalks run once through a simple wooden mill, I got 80 gallons juice which made over 11 gallons of as good syrup as I ever bought for \$1 12 per gallon.... Plowed my crop once and hoed it three times.... One man here will have over 100 gallons of syrup, many others from 12 to 40 gallons.... You have my sincere thanks for your labor in introducing the seed so widely among farmers...."

No. 52.—Chas. M. Keep, Michigan. "...With a small wooden mill, too small to be of much value, I obtained 7 pounds of thick syrup from 140 canes.... Left home before finishing the grinding...."

No. 53.—E. W. White, St. Lawrence Co., N. Y., latitude 44° 35'. "...Sowed on southerly side of woodshed and house, in 3-foot rows, seeds 6 inches apart; found to be too thick; should be in 4-foot rows, and hills 3 feet apart.... Seed yielded 1 to 6 stalks each, average about 4 stalks.... Season cold and backward up to middle of July.... Oct. 1, took 50 stalks, the product of 14 or 15 seeds only; stripped off leaves; cut into pieces of 2 to 4 inches; crushed and pressed in Hickok's Cider Mill (see page 227, Oct. No.); boiled down to ½ gallon thick molasses.... Oct. 24, by same process as above, 140 canes gave one gallon of molasses, with probably one half the saccharine matter left in stalks. Both samples of molasses of better quality than that from the South.... The leaves eaten greedily by cows increasing the quantity of milk.... Oct. 31, a few stalks left standing for seed, averaging 12 feet in height, one head has now ripe good seed. The seed on the other stalks about half good...." This is the farthest point north where the seed has been reported to ripen.—Ed.

No. 54.—H. G. Ainsworth, Ill. "...From seed you sent me, planted May 25, as in table, I raised one bushel of seed.... Intend to go into its cultivation more extensively another year, as I consider this county well adapted to raising it, and it is also valuable for fodder...."

No. 55.—D. B. Simmons, Ohio. "...Planted ½ acre as above, in hills 3½ feet each way, 6 to 10 seeds in a hill. Did not remove suckers.... Built a rough mill, but am now (Oct. 29,) cutting canes in a common straw-cutter, boiling the pieces, and condensing the extracted sweet in a copper kettle. I have thus far got one gallon of first-rate syrup up from each 12 hills, averaging about 6 stalks each. (About 300 gallons to the acre by this imperfect process!).... The syrup thus far made is superior to any molasses, or even to Stewart's refined syrup. There is no humbug about the Chinese Sugar Cane.... Hogs, horses and cattle eat every portion of the cane after the juice is extracted." (Canes pressed, without cutting and boiling, should not be fed to cattle.—Ed.)

Not in Table.—S. N. Cox, of Bartholomew Co., Ind. "...I write this to say that the Chinese Sugar Cane will grow and ripen in Indiana, and that we hereafter make our own molasses here.... From less than half an acre we made 75 gallons of thick molasses, superior to the New-Orleans, and I think equal to Maple. My mill was two Oak logs, 15 inches in diameter. It would not work until we put in cogs.... We did not extract over two-thirds of the juice. We boiled in common sugar kettles used for making Maple Sugar.... From several experiments at different stages of growth, we conclude there is as much syrup and nearly as good, when the seeds are brown as when fully ripe, but the fully ripe canes give syrup of a finer flavor.... Removing the heads and blades and letting the canes stand a few days I think gives more and better syrup.... We tried it for sugar, but it did not grain very well...."

Roswell Plummer, of Middlesex County, N. J., has made the most careful experiments in this vicinity. We expected a full report, but he now chances to be absent at the South. The following are extracts from his memorandum book: Planted June 2.... Sept. 21, 100 selected green canes gave 13 gallons juice, yielding 5 quarts of good molasses.... Oct. 6, cut 515 lbs. cane; took off leaves and tops, gave 24 gallons of sap.... 6 square rods gave 2,120 lbs. of cane, yielding 96½ gallons of sap.... 40 square rods (½ acre) gave 14,220 lbs. of cane (over 7 tons).... Oct. 12, selected ripest canes and obtained 1 gallon very fine quality molasses to 6 gallons of juice (This was equal to any syrup we ever tasted.—Ed.).... Have tried distillation and obtained one gallon of very fine Spirits from 6 gallons of sap.... Nov. 4, cane badly frozen in the field, but we are making one gallon of very fine molasses from four gallons of sap.... The best results obtained by boiling juice immediately on expressing it, and as rapidly as possible.... Boiling down quickly in shallow pans, with nothing added for cleansing, and strained after condensation through flannel to remove all specks, we obtained very clear, light colored syrup.

DEFERRED REPORTS.

A large number of excellent reports, giving details, came in after the above was made up and stereotyped. Several of them will be given hereafter. Among them

we may name: Benjamin Fenn, Jr., Trumbull Co., Ohio, (very complete); B. I. Talbot, Hardin Co., Iowa; H. Williamson, Chester Co., Pa.; John S. Strong, Meigs Co., Ohio; R. T. Ostrander, Walworth Co., Wis. (especially interesting); Eli Smedley, Lancaster Co., Pa.; Jas. H. Stout, Wheeling, Va.; Jas. C. Kelsey, Linn Co., Iowa; Wm. Chase, Providence Co., R. I.; G. Morse, Claymont, Del.; Wm. G. H., Lancaster Co., Pa.; Wm. H. Bolmar, Rockland Co., N. Y.; Lyman Lawrence, Van Buren Co., Mich.; Wm. Wilton, Alleghany City, Pa.; Geo. L. Squire, Knox Co., Ill., &c., &c., &c. Hundreds of other reports are made, but it will be impossible to refer to all. Messrs. Fenn and Ostrander give favorable results upon making sugar. Another article, in the Jan. No., will give the more important particulars in the deferred reports.

FOR THE BOYS AND GIRLS ONLY.

Work For Winter Evenings.

By work we mean employment, and to use a thought suggested by another person, it is work which will become play to those who take an interest in it, just as play becomes work, and hard work too, if we don't feel in the mood of it.

The work we have to suggest will be new to a great many of our readers, though not to all of them. We want to get at least one person, in every family where the *Agriculturist* is taken, to edit a newspaper. We want to have a *Home Journal* started in every household. Who applies for a situation? Who is ready to entertain the plan.

We have no personal ends to advance; we don't propose to open an exchange list, and ask for a copy of every paper published according to our suggestion, but we are in earnest in our recommendation, and hope it will be followed by a great many.

"A newspaper in every family! a printed newspaper!" No, a written one. We think that there are things happening every day which may be treasured up very successfully by those who are on the look-out for news, and which in the course of a week will fill several columns and be quite entertaining to all who are allowed to read the record. The thing has been done, and we shall try to tell how others may do the same thing again.

First, an editor is wanted; an enterprising lad, or a girl of ready mind, who is willing to take all the trouble, and do all the work if necessary. [The rest of our article is confidential, and addressed to the editors alone.]

We advise you first to issue a *Prospectus*, informing the family that you intend to publish a weekly paper, to be called "The Home Journal," "Our Paper," or whatever else you please to name it; and to be issued every Saturday evening, just after supper; and inviting all who wish, to send you communications and advertisements. Then proceed to prepare the first number. Each one must decide for himself, about the size of the paper he can afford to publish. We recommend as the best size and shape, a half sheet of foolscap paper folded once; a small sized letter sheet answers very well; note paper is too narrow. Papers of this size are easily kept without folding; they are easily read, and when an enlargement is demanded, or an "extra" is called for, it is a very simple matter to stitch two sheets together, either one within the other, or back to back. Let the name be written or printed in a bold hand across the first page with the motto, and the register number; thus:

OUR HOME JOURNAL.

Designed to interest and Profit the Family.

A. B. C., Editor { "Tall oaks from little { Published every
and Proprietor. { acorns grow." } week, at home.

Vol. I.

No. I.

Draw a line under this title, and another line perpendicularly through the middle of each page. The next thing is to secure the reading matter which should be wholly original, and which in most cases the editor himself will have to write. It will do him no harm if like Franklin, he has every kind of work to do. But he need never lack topics. He may enlarge upon any subject he pleases, and offer his criticisms with perfect independence. He may record all the news of the week, remembering that people like best to read about the things they are most familiar with. He can give personal items respecting all the members of the family; and if his paper appears well, very likely by Christmas day he will have some new books to "notice." A very nice pleasant seat that editor's chair will be. Some planning will be requisite to "make up" the paper, and get every article into its proper limits; and to get all the pictures original or selected, well arranged. The editor will have numerous confidential talks with different members of the family, and at certain hours through the week will be mysteriously busy in his private "office." But no one will

know exactly what is to appear, till the carrier delivers the paper at the appointed hour. And then the interest felt, as one after another takes it up, and passes his comments on it, or expresses his surprise at some important announcement!

This is a great deal better than what is called "composition writing," and gives the writer practice in describing the occurrences of every day life. It is better than "keeping a journal," because it allows greater variety, with less stiffness. And as a matter of family history, we know nothing to equal it. A plan like this pursued for years, even with occasional interruptions, will give one a file of documents which will be worth their weight in silver, as time rolls on.

For the encouragement of beginners, we will only add that years ago a lad whom we knew pursued the plan here described, and not only conferred great pleasure on others but derived personal advantage from it. We are not at liberty to mention his name, but we know that he "holds the pen of a ready writer," and bids fair to exert a wide influence as an editor of papers more widely circulated than those he prepared so long ago. On the other hand, a school boy whom we know, has just brought in his paper for Oct. 21, which discusses among other things "the weather," "boat-building," "school items," and the sermon he heard on Sunday. And to show what he thinks of the plan, and how successful he is, we copy two of his articles; a thing he had no idea of when he wrote them.

From "Our Home Journal," of Oct. 21

REFLECTIONS!

Yes, 'tis time, this is the sixteenth number of my paper. I never thought it would last so long and give me so much pleasure. The first number was written one afternoon soon after I came here: I felt very homesick and wanted something to do. Little did I think what would follow less do I think that I ever repented the writing of that first copy or the consequences which you see every week.

From the Same.

TUBE ROSE.

It has flowered! Seven beautiful white blossoms are on its stalk; one has just been picked; two bid fair to open to-morrow and two the day after. No flower ever gave me so much pleasure as this tube rose. I never had one before, in fact, never saw one. I have watched it with great care and I feel fully repaid. Oh! how sweet it is! Many, many thanks, to Miss. H.

See Here Boys and Girls—all of You!

We do not offer any special premiums to grown up people—we can not afford it without giving them a poorer paper. But we have just concluded, for once, to make a special offer to the Boys and Girls, even if we lose a little money by it the first year.

We have on our table a great copy of Webster's Unabridged Dictionary—as large as a large Family Bible, and containing nearly 1,400 pages. This book we could not do without, it contains so much information about almost every word in the English language. It cost—we do not remember how much—but we can buy some of them now at \$5 each, and we wish every boy and girl in the country had one. This is a great sum for a boy or girl to raise for even so great a treasure. But you can earn one. Suppose you start out with a copy of the *Agriculturist*, and show it to the people in your neighborhood, and ask every one to subscribe to a club of ten or more, at 80 cents each. Get all you can in your own place, and if your number is not made up, then go over into some other neighborhood where you are acquainted, and if necessary, write to your uncles or acquaintances, and tell them what you know about the *Agriculturist*, and ask them to send you their names. (The papers need not all go to one or two Post-Offices.) If you do this, and get 40 names, and send them to us with 80 cents each, we will buy a new copy of this large Dictionary and send it to your house without cost—no matter where you live—and with your name written in it. If any of the subscribers you get, think the paper is worth a dollar to them, and they are willing to pay you that much, you can keep all over the 80 cents apiece.

Let us tell you also, that if you try this plan you will get more than the Dictionary—you will get business experience, and learn the art of persuasion, which is of great practical use to every one.

Who will get the Big Dictionary? How many must we send to Mr. Merriam for? Shall we write to him to print an extra edition, right off?

The Problems.

We have received nearly a peck measure full of letters containing replies from Boys and Girls, to former problems, and have a number of fine engravings to present, but the Index, Title page, and other matters necessary to the closing number of the volume have left us no room. We shall, in future numbers, have a whole page at least, of matter specially interesting to our younger readers.

A Special Favor Asked.

It will be a matter of special convenience if our readers will renew their subscriptions for the coming year, and send in new names, as early this month as possible, since, at the best, we shall be overrun with work for a few days towards the close of this month, and the fore part of the next. Farther, the clerks begin correcting the lists and writing wrappers for the next month, as soon as the number of the preceding month is mailed. It will be no more trouble to sit down and write your name, Post Office, County and State, (all that is necessary,) and enclose the subscription, when you read this item, than it will be to do it at Christmas or New-Years. Please oblige us in the above matter, and we too, may, perhaps, have a holiday at New-Years, which will be a novelty to us. Last New-Years our respite consisted in helping to open 563 letters, to prevent their crowding upon a larger number the next day.

All for Eighty Cents!!!

We ask attention to the last two pages of this number, containing a summary of the contents of this volume. The Prospectus promised five hundred articles in a volume—the Index contains over one thousand references, though, of course, many of them relate to short answers, &c., but all give information.

So much for the past volume. The next volume will be ONE THIRD LARGER, or allowing the same space for advertisements, market reports, and such like matters, the reading matter of the next volume will be nearly or quite DOUBLED.

The character of the matter will be correspondingly improved.

The number of useful, instructive, and pleasing engravings will be very greatly increased; indeed, we intend to furnish from two hundred and fifty, to three hundred illustrations, if not more, in the next volume alone.

Now, with all the above improvements, and others not enumerated, the entire Volume, (XVII.), will be furnished to subscribers for EIGHTY CENTS each, where ten or more copies are taken by one person or by a Club.

Or, Six Copies for Five Dollars.

Or, One Copy for One Dollar.

Will not this be a paying investment, to say nothing of the seeds offered free to all subscribers for 1858?

Remember, also, two extra copies (this and the preceding) to all new subscribers desiring them.

We make the above promises and offers only after sufficient experience to know that we can certainly fulfill them.

We can do more if every present subscriber renews, and brings along as many friends and neighbors as possible. Will not this be done? We think it will.

3,078,792 "ems."

The piece of type metal upon which the letter *m* stands is nearly square, and printers estimate their work by the number of thousands of *m*'s (or *ems*) which would stand in the space occupied by the type set up. Thus, it would take 1,150 *ems* to fill the space occupied by this item. Including the smaller letters and the spaces between words, there is more than twice as many letters on a page as the estimated number of *ems*. On a page of this type (*Nonpareil*) there are about 10,500 *ems*. On a page of *Brevier* type, like the middle pages of this paper, there are 6,600 *ems* of reading matter. In *Bourgeois* type, like the first page, there are 5,700 *ems*. In *Agate* type, like the next page, there are 15,000 *ems*. It will be seen then, that the number of *ems* indicates the amount of reading matter.... We have just taken down from our shelves six of the best books we have, which are sold at a dollar each and are worth the money—and on measuring the pages we find the books average 444,000 *ems* each. The November number of the *Agriculturist* contains 252,566 *ems*. As that number is a fair sample of the future numbers, the measurement shows that estimating only twelve numbers, the next volume will contain 3,078,792 *ems*, or about the same reading matter as seven good books costing \$1 each. This does not include the two extra numbers given to all new subscribers.... We leave our readers to say how the *Agriculturist* compares with most books offered to the public, as respects the quality of paper printed upon, the number and value of engravings, and especially in a careful preparation of the reading matter.

Everybody an "Agent."

Many publishers offer Premiums to persons acting as agents. We follow the same course, only we consider everybody an agent and pay two premiums to every one, viz.: Premium first, the best possible paper that can be afforded at the subscription price; and Premium second, three packages of seed to every one. We therefore "by these presents," as the lawyers say, do hereby constitute and appoint every present and future reader of this paper as a special authorized agent to forward the interests of the *Agriculturist*, in his or her neighborhood.

We now consider the work intrusted to good hands and shall rest assured that it will be well done.

THE BAKER'S DOZEN OFFER

Will be continued through this year; that is, every new subscriber for 1858, desiring them, will be furnished with this and the preceding number without charge.

How to Mail Postage Stamps and Gold.

We have received thousands of stamps which were badly injured or spoiled by being stuck to one another, or to the enclosing letter. It is always better to fold up stamps with a double thickness of thin paper between the gum surfaces. Then, in case of getting damp, they can be separated, and the paper adhering to each sticking surface can be removed. If only one thickness of paper be put between, both pasted portions may stick to this, in which case they cannot be separated without injury. Never let the gummed side of stamps come in contact with the printed side, as ten to one, the figures will be defaced and the stamps rendered useless.

To mail gold, a good plan is to take a card or bit of pasteboard and split it open in the middle, drop in the gold coin, and close it with a wafer or paste, then enclose the card or pasteboard and seal the letter tightly.

It is seldom safe to trust money to the sealing or closing of ordinary "self-sealing envelopes." A little extra paste, or a split wafer put in beyond the usual seal will render a letter difficult to be opened. If you know your postmaster to be honest this is enough; if you do not know this fact, then "register" the letter.

Bank Bills.

The bills on most unbroken banks of the country are now passably good here, or approaching that point. For our use here, bills on the unbroken Banks of New-York, New-Jersey and New-England, are much the most desirable, but when these, or 3-cent stamps, or gold can not be forwarded, please send along the best bills you have, on Banks in good credit at home. The following table of the discount necessary to be paid before bills can be used here, will give some idea of their present value to us—but the rates are growing better almost daily.

Banks in	Discount.	Banks in	Discount.
New-York State.....	2 1/2 @ 3	O., Ind., Ky., Mo.....	2 1/2 @ 3
New-England.....	3	West-Jersey.....	3
East-Jersey.....	3 1/2 @ 4	Baltimore.....	3 1/2 @ 4
Canada.....	1 1/2 @ 2	Interior Penn.....	3 1/2 @ 4
Philadelphia.....	2 1/2 @ 2 1/2	Rhode-Island.....	4 1/2
Delaware.....	2 1/2 @ 2 1/2	Interior Maryland.....	4 @ 5
		South and West.....	5 @ 7
		Ill. and Wis.....	7 @ 8

Two Pieces of Paper—Three Suggestions.

1. Mr. Oren O. Stewart, of Union, Conn., well suggests that "each subscriber when renewing should send along a contribution to the general stock of knowledge, such as: the best mode of cultivating a particular crop, a good recipe, the result, whether good or bad, of the trial of a costly or dangerous recipe on experiment." The whole aim of the *Agriculturist* is to collect and disseminate useful information. One valuable hint from you, reader, if published in these pages, will reach thirty to fifty thousand persons direct, and perhaps a million others by being copied into other journals. How much good you may thus do by a few lines!

2. Please write on but one side of a sheet, and let all business matters be on one page or sheet, and other items on a separate one, putting your name and address on both.

3. It is always better to name at the beginning of a money letter, just how much money is enclosed, and follow directly with a statement of what it is for.

Postage only Six Cents a Year.

The law expressly says that the postage on periodicals weighing not over three ounces shall be one cent per number, and only half that sum when paid quarterly in advance by the subscriber. The papers are to be weighed dry, and without the wrappers used in mailing. We shall take care to have each number just below three ounces, so that only one cent per number, or 1 1/2 cents per quarter, or 6 cents per year can be charged for postage.

Back Numbers of Vol. XVI.

We shall be able to supply from our stereotype plates, all the back numbers of this volume, that may be wanted. The entire volume will be supplied in numbers, at the office, for \$1, or sent post-paid for \$1 1/2.

To new subscribers who have the November and December numbers as a premium, the ten preceding numbers will be furnished for 84 cents at the office, or sent post-paid for 94 cents.

Volumes XII, XIII, XIV and XVI, (not XV,) will be supplied neatly bound for \$1 50 each. They are too bulky to go by mail.

Ready prepared covers for these volumes can be had for 25 cents each. The numbers can be put in by any book binder for 25 or 37 cents per volume. The covers are not available.

The Seeds to be Distributed.

We are aware it would be for our interest, could we at this time, announce the list of seeds for the next Annual Distribution, but it is impossible to do so, before the next number, as we are making constant additions. Had we not yielded to the anxieties or fears of subscribers last year, but delayed the distribution of Sugar Cane Seed until March, each of the first 10,000 packages would have been twice as large. The whole distribution this year will be completed in ample time for the Spring planting. We hope to effect such arrangements with the various Express Companies, as to send out seeds cheaper by Express than by mail, to most points where there are ten or more subscribers.

Table listing various agricultural products and their prices, including CABBAGES, CAULIFLOWER, CELERY, POULTRY, CHICKENS, DUCKS, BRATFIDGE, GROUSE, TURKEYS, GEES, PIGS, and VENISON.

We annex a statement of the total receipts of the leading kinds of Breadstuffs, by railroad, river and coastwise, and of the total sales, here, for five weeks, ending to-day:

Table showing Receipts and Sales for Wheat-flour, Wheat, Corn, Rye, Barley, and Oats.

This statement affords the following comparison of the total receipts, in each of the last two months:

Table comparing Flour, Wheat, Corn, Rye, Barley, and Oats for 24 bus. days last month and 30 bus. days this month.

It also enables us to give the following comparison of the total sales in each of the last two months:

Table comparing Flour, Wheat, Corn, Rye, Barley, and Oats for 24 business days last month and 30 business days this month.

We add a comparison of the Receipts and Sales, here, for the five weeks ending Nov. 25, in each of the last two years:

Table comparing Receipts and Sales for Flour, Wheat, Corn, Rye, Barley, and Oats for 1856 and 1857.

Milwaukee Flour and Wheat Shipments during each of the last two seasons to Nov. 1.

Table showing Flour, Wheat, and Corn shipments for 1856 and 1857.

Buffalo Breadstuffs Receipts by Lake from the opening of Navigation to Nov. 1, in each of the last three years.

Table showing Flour, Wheat, Corn, and Oats receipts for 1855, 1856, and 1857.

Buffalo Breadstuffs Shipments during October, 1857.

Table showing Flour, Wheat, and Corn shipments for 1857.

Oswego Breadstuff Receipts from the opening of Lake Navigation to Nov. 1.

Table showing Flour, Wheat, and Corn receipts for 1856 and 1857.

LIVE STOCK MARKETS.—Receipts of Beeves for the four weeks ending Nov. 18, were 12,773 against 13,996 for the preceding four weeks. But these are more than sufficient for the demand during the present time, while the rich arc curtailing their expenses; and the poor are not able to buy meat. Receipts for the weeks ending Oct. 23, were 2,981; Nov. 4, 3,433; Nov. 11, 3,978; Nov. 18, 2,381. Prices varied as follows: Oct. 23, no change; Nov. 4, 3/4c lower; Nov. 11, 3/4c lower; Nov. 18, 1c higher—making a decline of 3/4c during the month. The latest sales range: Premium Cattle, 10 1/2c @ 11c; First quality, 9 1/2c @ 10 1/2c; Medium quality, 8 1/2c @ 9c; Poor quality, 7 1/2c @ 8c; Poorest quality, 6 1/2c @ 7c; General Selling Prices, 8 @ 10c; Average Selling Prices, 8 1/2 @ 8 3/4c. These prices are for the estimated net weight of the meat, which is ordinarily about one-half the live weight. Very fat animals dress 55 to 60 lbs. beef to the 100 lbs. live weight.

Sheep and Lambs.—The receipts of the five weeks reported last month should have been 33,537. The footings for the four past weeks are 43,294. Prices have declined during the month. Sheep are now worth 3 1/2c @ 4c per lb. live weight. Lambs bring 3 1/2 @ 3 3/4c more. The trade is dull at the present time, with free arrivals. Swine are in good supply at 6 @ 6 1/2c gross weight for corn-fed, and 5 @ 5 1/2c for distillery hogs.

THE WEATHER during the latter part of October was wet. In November a fine moderately cool atmosphere prevailed until near the middle of the month, when the first heavy frosts occurred, since which time it has been quite cool, with a light sprinkling of snow. Our condensed notes read: Oct. 23, cool, frosty morning, day cloudy; 24, mild; 25 to 27, heavy wind and North-east rain storm; 28 and 29, cloudy; 30, clear and mild; 31, rain; Nov. 1 to 4, clear and fine; 5, clear a. m., rain at night; 6 and 7, fine and mild; 8, cloudy and light rain; 9, clear and pleasant; 10, raining a. m., clear p. m.; 11, clear and fine; 12, hard frost, mercury 32° at sunrise; 13 and 14, clear and growing cooler; 15, very cool morning, mercury 22°, and ground frozen quite hard; 16, cool a. m., rain p. m.; 17, clear and warm; 18 and 19, m. cloudy, clear and growing cool; 20, coldest morning of the season; mercury 20°, heavy snows at the West; 22, ground nearly covered with snow, a. m., the first of the season; 23, milder, rain p. m.; 24, cool and pleasant, though considerable cold wind as on several days past.

AN APPEAL

TO FARMERS, MECHANICS, HOUSEKEEPERS AND OTHERS WHO NEED LABOR IN THE STATE OF NEW-YORK AND ELSEWHERE.

NEW-YORK, November, 1857. Owing to the present severe pecuniary pressure, great numbers of persons in this city, who have been thrown out of employment, are willing to accept of any part of the country where occupation can be obtained. As their desire is to earn their subsistence the coming Winter, rather than suffer or be dependent on charity, they would engage for low wages. Among them are persons of almost every age and variety of pursuit. Children of both sexes, young men and women, those with and without families, steady mechanics, reliable laborers, and many sewing women and girls, who would turn their hands to any work for which they might be competent. The persons referred to mostly belong to the respectable industrious classes. They have hitherto been self supporting, and by means beyond their control are now reduced to the necessity of subsisting on alms, or of finding employment out of this over-crowded city. Nobly preferring the latter, they ask a home, or temporary asylum, in any accessible part of the country where they may earn their daily bread, until the present calamitous times are overpast. The persons in question having no means for traveling, those must be supplied by those who may require their labor. The cost of the best and cheapest route from the City of New-York to any desired place may be readily ascertained, and the proper sum being sent to the Society applied to, the order will receive immediate attention. Persons requiring labor will please direct their orders as follows:

For Girls and Women—"Home of the Friendless," Thirtieth street, New-York.

For Children of both Sexes—To N. C. PEARCY, Juvenile Asylum, No. 23 West Thirtieth street, New-York.

For Children and Young Women—To C. L. BRACE, "Children's Aid Society," Astor place, New-York.

For Children, Young Men and Women, Families, Mechanics and Laborers—To N. MEAD, "Five Points Mission," New-York.

L. M. PRAISE, "Five Points House of Industry," New-York.

This circular appeal is the result of conference with the above-named Societies and the Association which the undersigned represents. It is earnestly hoped that the hearts of many may be moved to give it an early and favorable response, and thus afford some little relief to the poor and to this overburdened city. As stern Winter will soon again be upon us, whatever may be done for the benefit of the destitute in this way must be done quickly.

Papers in the interior friendly to the object, will please republish this circular.

R. M. HARTLEY, Secretary of the Association for Improving the Condition of the Poor, No. 39 Bible House, Astor-place, New-York

American Agriculturist.

A THOROUGH-GOING, RELIABLE, and PRACTICAL JOURNAL, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; IN-DOOR and OUT DOOR work around the DWELLING; care of DOMESTIC ANIMALS &c. &c.

The matter of each number will be prepared mainly with reference to the month of issue and the paper will be promptly and regularly mailed at least one day before the beginning of the month.

A full CALENDAR OF OPERATIONS for the season is given every month.

Over SIX HUNDRED PLAIN, PRACTICAL, instructive articles will be given every year.

The Editors and Contributors are all PRACTICAL WORKING MEN.

TERMS—INVARIABLY IN ADVANCE

One copy one year.....\$1 00

Six copies one year.....5 00

Ten or more copies one year, 80 cents each.

An extra copy to the person sending 15 or more names, at 80 cents each.

In addition to the above rates: Postage to Canada 6 cents; to Europe 24 cents; Delivered in New-York City 12 cents.

Postage anywhere in the United States and Territories must be paid by the subscriber, and is only six cents a year, if paid quarterly in advance, at the office where received.

Subscriptions can begin Jan. 1st, July 1st, or at other dates, if especially desired.

The paper is considered paid for wherever it is sent, and will be promptly discontinued when the time for which it is ordered expires.

All business and other communications should be addressed to the Editor and Proprietor,

ORANGE JUDD, No. 191 Water-st., New-York.



Business Notices.

Fifty Cents a Line.

Messrs. Grover & Baker: GENTS.—The Sewing Machine is received, and we put it at work at once. It is a beautiful thing, and puts everybody into an excitement and good humor. Were I a Catholic, I should insist upon Saints Grover & Baker having an eternal holiday, in commemoration of their good deeds for humanity.

With respect, I am yours, CASSIUS M. CLAY.

GROVER & BAKER, Sewing Machine Co., 495 Broadway, New-York; 18 Summer-street, Boston; 830 Chestnut-street, Philadelphia; 87 Fourth-street, St. Louis, Mo. 58 West 4th-st., Cincinnati, Ohio. 11 Camp-st., New-Orleans, La.

MARKET REVIEW, WEATHER NOTES, &c.

AMERICAN AGRICULTURIST OFFICE, New-York, Nov. 25, 1857.

There has been a partial revival of activity in most branches of business during the past month. The pressure for money has not been so severe, and merchants have operated with more confidence. The General Produce Markets have been most significantly affected by this improvement in financial affairs. The great leading agricultural products have been sent forward to market, and sold with more freedom. There has evidently been an increased disposition among parties having supplies to dispose of, to sell at prevailing rates rather than to hold on in anticipation of being enabled to secure higher prices at some future period. The receipts from the interior have been quite extensive, and as they have met with prompt purchasers, there has been very little accumulation here. The demand has been generally active, as well for home use, though recently the unfavorable news received from Europe, has lessened the inquiry so that buyers are now purchasing such lots as they immediately require, having no encouragement to extend their operations. This is especially the case with shippers, and unless a change for the better should occur in the markets of the Old World, or prices fall to a lower average here, there is not much probability of a heavy export trade for some time to come. Our financial crisis is now a matter of history, while Europeans are just experiencing very severe embarrassments, which will keep them from entering into any new engagements that they can easily avoid. The abundant crops in the Old World, as well as in our own country, this year, have given an ample supply of cheap food; and if we cannot afford to sell our produce at such low rates as will exclude all competition, we need not look for a sparsely sought after, even by our own spinners, and prices are wholly unsettled. The last sales effected here were at 12c. for Middling Upland, 12 1/2c. for Middling New Orleans, and proportionate cash prices for other grades, but large lots cannot be disposed of at these quotations. Our available supply is very light, especially of ordinary and middling; but factors are quite willing sellers when they find customers. The Provision trade has been quite tame. The supplies received from the interior have been moderate, but as the demand from the trade, as well as for shipment, has been limited, prices have been unsteady. In other branches of business, there has been no very remarkable change. The following carefully prepared list of prices, will show the difference between the quotations given in our last, and the closing prices, to-day:

Table of market prices for various goods as of Oct. 22 and Nov. 25. Items include Flour, Common to Fancy Western, Extra Western, etc.; Corn Meal; Wheat; Rye; Barley; White Beans; Black-eyed Peas; HAY; Cotton; Rice; Pork; Beef; Country mess; Hogs; Butter; Cheese; Feathers; Sugar; Coffee; Hyson Teas; Tobacco; Seed; Wool; Domestic flax; Hemp; Dressed American; Tallow; Oil Cake; Potatoes; Yucca; Sweet, Dec. per bbl.; Mercers; Sweet, Va.; Onions; White and yellow; Cranberries; Quinces; Apples; Spizenburs; Newtown Pippins; Greenings; Fall Pippins; Pears; Turnips; Pumpkins; Squashes.

Advertisements.

Farm Produce of all Kinds

Sold on Commission, such as Flour, Butter, Cheese, Lard, Provisions of all kinds, Grain, Eggs, Poultry, Game, &c., &c. HATHORN & ELMERS, 227 Front-st., New-York.

Garden, Field and Flower Seeds.

A full assortment of the choicest Foreign and Domestic Field, Garden and Flower Seeds of the growth of 1837, always on hand, for sale by R. L. ALLEN, 189 and 191 Water-st.

TWENTY PER CENT. DISCOUNT FOR CASH!

DURING THE PRESENT MONEY PANIC. Messrs. BOARDMAN, GRAY & CO., Albany, N. Y., will sell their unrivaled Corrugated Sounding Board, and Dolce Campana Attachment

PIANO FORTES,

at wholesale prices, for cash. These instruments are not surpassed for richness of tone, elegance of style, while for durability and retaining in tune and good order for a great length of time, they are EQUALLED BY NONE.

FOR A FEW WEEKS ONLY we offer these extraordinary inducements for CASH, and we also GUARANTEE THE SAFE DELIVERY OF EACH INSTRUMENT AT THE NEAREST Railroad depot or Steamboat landing.

Every instrument fully warranted to give perfect satisfaction. Piano Fortes with or without the Attachment. Descriptive Circulars forwarded on application.

BOARDMAN, GRAY & CO., Corner of State and North Pearl sts., Albany, N. Y.

WATER! WATER!! WATER!!!

WATER WITHOUT LABOR.

AYRES' WATER ELEVATOR.

The most important Labor Saving Machine ever invented for the farmer, affording to cattle in stock-yards or pastures, an un-failing and abundant supply of Water in Summer and Winter, without care or labor, or danger from frost.

This apparatus may be applied to any common well not over forty feet deep, and may be operated by domestic animals of any weight, and in house-wells by women and children.

The amount of water raised is one-tenth the weight of the animal.

No implement in use will save so much labor on a farm, supporting twenty head of cattle, as will this simple contrivance.

It is substantial, cheap, and can hardly get out of repair. The Elevator has obtained the great silver medal, and a special diploma from the United States Agricultural Society, the silver medal of the New-York and Connecticut State Agricultural Societies, with the highest awards of the State Societies of Ohio and Illinois, and of the St. Louis Agricultural and Mechanical Association, and of several other Societies, accompanied in every case by the most honorable reports of judges.

The approbation after critical investigation, of hundreds of thousands of people who have seen the machine tested and in use by thousands of cattle at the Exhibitions of the year, has been unqualified, and the esteem in which it is held by parties who have it in actual use in their own yards, is all we desire. It meets every man's want.

Applications for Rights or Territory, may be made at the office, No. 10 Post-Office Building, or by letter addressed to HENRY A. DYER,

Pres. Ayres' Patent Well and Gate Co., Hartford, Conn.

American Farmers' Encyclopedia.

THE MOST COMPREHENSIVE WORK on American Agriculture, and a work of real value.

Twelve hundred pages, seventeen Lithographic Plates, besides other illustrations.

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AN AMERICAN BOOK FOR AMERICAN FARMERS!!

It treats of the diseases peculiar to the American climate. It recommends simple modern remedies instead of dangerous poisons.

It teaches how to keep your horse in good health, and how to cure him if he is lame or sick.

It will cost you ONE DOLLAR, and will be sent by mail prepaid. A valuable catalogue of Agricultural Books will be sent gratis to all who apply.

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NEW TREATISE ON LAND SURVEYING.

This day published by E. C. & J. RIDDLE, Philadelphia.

A TREATISE ON SURVEYING; in which the theory and practice are fully explained. Priced by a short treatise on Logarithms, and also by a compendious system of Plane Trigonometry. The whole illustrated by numerous examples. By Samuel Alsop, author of a "Treatise on Algebra," &c.

In the above named work the author has presented the theory plainly and comprehensively; has given definite and precise directions for practice, and has embraced in it every thing which an extensive business in Land Surveying, would be likely to require.

The work will be mailed at \$1 75 per copy, including postage.

Just Issued from the Press of

J. B. LIPPINCOTT & CO.

CLIMATOLOGY OF THE UNITED STATES,

AND OF THE

TEMPERATE LATITUDES OF THE NORTH AMERICAN CONTINENT.

Embracing a full comparison of these, with the Climatology of the Temperate Latitudes of Europe and Asia; with Isothermal and Rain Charts, including a summary of Meteorological Observations in the United States, condensed from recent scientific and official publications, by Lorin Blodget, author of several Reports on American Climatology. 1 vol. large octavo. Price \$5.

II.

McMAHON'S AMERICAN GARDENER.

The American Gardener's Calendar, containing a complete account of all the work necessary to be done in the Kitchen Garden, Fruit-Garden, Flower Garden, Orchard, Vineyard, Nursery, Plowshare Ground, &c. &c., for every month in the year, with practical directions, and a copious Index. By Bernard McMahon, Eleventh Edition. Revised and Illustrated under the supervision of J. Jay Smith. 1 vol. 8 vo. Price \$2.

The above works will be sent by mail on receipt of price.

J. B. LIPPINCOTT & CO., Philadelphia

Prospectus for 1858.

THE SATURDAY EVENING POST.

Established August 4, 1821.

THE PAPER THAT NEVER SUSPENDS

A Family Weekly—Devoted to Literature and the News.

In these times of Bank suspensions and Mercantile suspensions, the proprietors of the SATURDAY EVENING POST call the attention of the reading public to their old and firmly-established weekly paper, as the paper that never suspends. For over

THIRTY-SIX YEARS

THE POST has been published; and in all that period—through "good times" and through "bad times," through bank inflations and bank contractions, through prosperous seasons and through panics, THE POST has been regularly issued every week, and forwarded to its thousands of subscribers. Its proprietors therefore point to the past as an un-failing index of the future. And they feel that in asking of the reading public a continuance of the patronage heretofore so liberally bestowed upon THE POST, they are asking no more than what it will be both the interest and the pleasure of that public to grant.

Among the contributors to THE POST, we may mention the following gifted writers:—

WILLIAM HOWITT, ALICE CARY, T. S. ARTHUR, GRACE GREENWOOD, ANNA BLACKWELL, AUGUSTINE DUGANNE, MRS. M. A. DENISON, EMMA ALICE BROWN, the Author of "AN EXTRA-JUDICIAL STATE-MENT," the Author of "ZILLAH, THE CHILD-MEDIUM," &c., &c., &c.

We design commencing in the first paper of January, an ORIGINAL

NOVELLET, BY T. S. ARTHUR.

Mr. Arthur's productions are so widely known, that we need hardly say that the tone of the present Novellet will be entirely consistent with the moral and instructive character which we have always striven to impress upon THE POST. Readers who wish to peruse the FLASH STORIES which abound in the land—pernicious and destructive in their tendency and effect upon the mind, we regret to say, in every country. But THE POST will still maintain its high character, as a paper which the most scrupulous parent may allow freely to enter

THE FAMILY CIRCLE;

And which will purify and instruct, instead of demoralizing and corrupting the youthful mind. Especially will its conductors avoid, in the publication of the weekly news, all those long and disgusting reports—unfortunately now so common—of

VILE CRIMINAL CASES;

Believing, as they do, that the practice of publishing the details of such loathsome cases, and of the criminal trials resulting therefrom, is a fruitful cause of the recent alarming increase of vice, and crime in the community. Like begets like—and what the mind feeds upon, that it will grow to resemble.

CHOICE SELECTIONS

of all kinds, from the BEST FOREIGN and DOMESTIC SOURCES, shall continue to be, as heretofore, a leading feature of the Post. The Stories, Essays, Sketches, Agricultural and Scientific Facts, &c., &c., obtained in this way for the readers of THE POST, are among the most instructive as well as interesting portions of its contents.

THE VERY CREAM

of the PERIODICAL LITERATURE OF THE BRITISH ISLES is thus given to our readers. THE POST, weekly, has

SOMETHING FOR ALL.

the members of the family. NOVELLETS, ESSAYS, STORIES, ENGRAVINGS, AGRICULTURAL ARTICLES, THE NEWS, SKETCHES, POETRY, ANECDOTES, RIDDLES, THE WHOLESALE AND RETAIL MARKETS, BANK NOTE LIST, &c. &c., &c.

Finally, we may mention three good reasons why the reading public should give the preference to THE POST:— IT IS SUPERIOR TO ANY OTHER PAPER OF THE SAME PRICE. IT IS CHEAPER THAN ANY OTHER PAPER OF EQUAL MERIT. IT WILL BE CERTAIN TO COME WHEN PAID FOR.

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Chinese Cane Syrup and Brandy.

GENERAL COPPER-SMITH WORK.

Distillers of all kinds, for making brandy and alcohol from Chinese Syrup. Steam and horse cane mills, syrup pans, skimmers, dippers, syrup gauges and pumps, steam brewing apparatus. JOHN W. REID, 11 Old-slip.

POULTRY FOR SALE.—Pure white-

-faced Black Spanish, Dark Grey Dorking, Golden-laced Sebright Bantam, Rose-combed Black Bantam, and Rouen Duck, each \$5 per pair, or \$8 per trio. D. S. HEFFRON, Utica, N. Y.

BREMEN AND CHINA GEESE AND

BAYLESBURY DUCKS.—Several pairs excellent stock, will be sold low by R. C. McCORMICK, Woodhaven, Queens Co., N. Y.

Berkshire Pigs.

Warranted of pure breed and at a low figure. For sale by WILLIAM J. PETTEE, Lakeville, Conn.

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